26th January 1989

Yojana

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On reviving panchayats ...

"Here in this country we are now giving some sort of a trial by reviving our panchayats, that is to say, our village associations which will represent the village, and although we may congratulate ourselves on the fact that we are trying to revive these panchayats, I am not sure if we have a clear conception of what these panchayats are expected to do or what they are expected to achieve. I would suggest that this would be a fruitful line for investigation if these panchayats could not be entrusted with more and more power so that in the village itself much of what is needed is done by the people there and the Central Government governs less and less until it becomes the best Government, least governing. This idea sometimes strikes me and I feel that in this Conference when you will be discussing one item on the agenda which relates to parties, perhaps your thought might go in this direction and you may consider how and to what extent the reconciliation which is needed between the individual opinion and the collective opinion can be made possible or realised in this method."

—Rajendra Prasad

First President of India

(From inaugural address to the Commonwealth Parliament Conference, New Delhi December 2, 1957)

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Participation in progress ...

THE SENSE OF BELONGING IS A reward in itself. The feeling of involvement in anything great or small lends an amount of strength and tends to give a degree of emotional satisfaction to those directly or indirectly associated with it. This is why they say that joys when shared are doubled, and sorrows halved. The pride of participation is a significant psychological incentive for which material and monetary benefits are no substitutes.

THE PROSPECT OF MORE meaningful and larger participation of the people in their development plans is getting brighter day by day as various States have started launching massive schemes to involve common man in the administration of local affairs. It is a known fact that almost eighty per cent of our population lives in villages. Hence it is apt that the concept of participation should take deeper roots there in order to grow and spread into sturdy branches of democracy, bestowing real power upon the people.

INDIA, WITH HER HISTORY of thousands of years of civilisation, is endowed with glorious traditions that make us all proud. We had, and we still have, in our village the system of calling people to a forum where elders and the wise, enjoying confidence and respect of the community, join their heads to decide important matters. The decisions taken by this assembly carry weight and command and are honoured by all. Despite long years of colonial rule and the resultant land distribution pattern, blatantly designed to harm the interests of the tiller, the old panchayat system continued to survive. It was there because the village folk are fully confident of their own capabilities of sound thinking and right approach to problems. Of course, with the passage of time, unscrupulous elements infiltrated into the system for the sole objective of promoting their own influence. Thus the area of activities for the good of larger sections of people was bound to shrink.

AFTER INDEPENDENCE, MIGHTY socio-economic changes have taken place. The architects of free India saw to it that the



vestiges of alien domination were removed to give place to a new order befitting an independent, sovereign country. The old zamindari system, which continued for ages, was abolished and new land reforms were introduced. Industrialisation on massive scale and commissioning of giant power plants totally changed the face of many a village. Electricity, once the prerogative of towns and cities brought the light of hope to rural areas. Roaring tractors, and power-operated pumps are now common sight in villages. New irrigation schemes and chemical fertilisers are now turning vast stretches of land into fields laden with crops. The average farmer knows more about improved seeds and better tools than his grand-father knew. The road links, banking and credit facilities, the cooperatives, and the rising silos for proper and safe storage of the agricultural products, are all designed for the uplift of the villages. The boons and blessings of modern technologies are happily reaching rural areas, and they are there for all of us to see. There is no denying the fact that progress has registered its presence far and wide.

YET, IT IS ALSO UNDENIABLE that the attempts to root out poverty have not achieved the desired results. Inspite of the various ameliorative schemes of the government to bring relief within easy reach of those who need it most, the economic condition of large sections of people has not improved as expected. The economists agree that the plans for development are well thought out and properly formulated. The financial experts say that the funds are adequate. Where is then the snag? How can we account for the dark shadows of destitution hovering over an increasing number of people, amidst the bright patches of prosperity? We must understand that unless the villages, the backbone of our economy, are put on sound footing the country as a whole would not be able to secure the goal of the required progress. And, for this, we have to bring the people of our rural areas into the thick and thin of planning. Participation of masses in development schemes is a must. We know for certain that people make governments, governments do not make the people.

—Chief Editor



Power to the people or over them ?

S.K. Dey

We lead this special Issue with an article from Shri S.K. Dey, the first Minister of Panchayati Raj in the Nehru Cabinet. The writer, who is now in his eighties, and an engineer by profession, was picked by Nehru to fashion and design Panchayati Raj system in this land of Shankaracharya and upanishads. He narrates, in a chronological order, with all the authenticity at his command, the events relating to the meteoric rise and the sudden fall of the process which had ushered a comprehensive programme rooted to India's own past and brought the awakening of millions from deep, ignorant slumber He is firmly convinced that if India has to grow and remain a democracy, the categorical imperative is still Nehru's basic formula: the village school, the village Panchayat and the village cooperative. The author emotionally describes the shattering of a dream which held the promise of restoring power to the people, who in his words "are the beggars". The piece ends with a poetic and symbolic treatment of the subject matter.

FOR AGES IN HISTORY AS FAR AS ONE CAN PROJECT oneself, one cannot escape a question that never will relent being asked: "What is the purpose of life ?" and, "How does one travel towards it ?" Even a naive mind will not fail to offer a spot response: "One wishes to be liked and be loved". This can happen in reality only when people are endowed with a thinking mind and the power to act. There seems also a short-cut arithmatical alternative along side that most people would feel tempted to pursue. It is power over the people. But few realise that illusions can reflect but illusions alone. Power in freedom alone can therefore be the inescapable pre-requisite in the life of man, if man is to be different from the dumb and mute animal. The truth is beyond contradiction that power can generate and evolve only if it is free and spontaneous. It is

difficult to discover a person more than Gandhi on the one hand and Nehru on the other in the Twentieth Century, as critically aware of this basic truth.

three basic institutions

AS A NATURAL COURSE, GANDHI DEFINED SWARAJ in his simple language as "not the concentration of authority in a few but the acquisition of the capacity in the many to regulate authority when abused" Nehru gave the same version but in his own typical way. It was at Lal Bagh Garden in Bangalore while addressing a state level

"A national programme encompassing nearly 200000 Panchayats and a like number of cooperatives across the second largest population in the world, cannot stand still. It must move forward or retreat."

meeting of Sarpanches and Chairman of Taluka Board who had gathered there to be initiated into Panchayati Raj by Nehru himself. With the tens of thousands from rural Karnataka waiting in pindrop silence in the garden, around 1958, he stated, *"you are a younger people basically but I seem to be crossing the line faster than I thought People have been asking in repetition: "After Nehru, who ?" I have refused to answer this till now, privately or publicly Today I feel tempted to attempt an answer You have come here traversing long distances. You represent Karnataka more intimately and closely than all the leaders, including myself, who claim to lead you from the top What we are trying to do here is just the opposite"*

"To elaborate, I must ask you, if you could divide your body into the thousands of parts and more that compose it ? No, not even a microscopic fragment Therefore the body must function as an integral whole at your command. To have this, you must have the school that can teach you how to read and write You must have the Panchayats with their upper linkages What I call Panchayati Raj as a system and a process, that could guide you as regards how to organise yourselves You must next have one more basic instrument to look after your resources, the growth and their utilisation in your area. We call them cooperatives Every reorganised village then must have three basic institutions—the Village School, the Village Panchayat and the Village cooperative. You will wonder where lies the answer to your question: "After Nehru, who" ? I have come here under your command to explain to you face to face what the task is at the grossroots where you have been elected to. That should offer you an answer more adequate than I can offer.

You are nearer to the land and people you are to serve, than the Prime Minister of India with the entire official machinery at his disposal around him and around the country. Your role thus becomes more crucial and real than mine at Delhi. You and your people have a clearer instinct to discover what you need most and how, with the technical and administrative staff locally at your service. A house that runs itself, calls for no guardian. This, if I may say so, is my conception of what Democracy is. We are on trial. I am naturally anxious to find out how soon you can make the Prime Minister at Delhi totally superfluous to your local needs and problems, so that you, the local Prime Minister, can take over the local functions, leaving the Prime Minister at Delhi, whosoever, to look after the other and wider needs of the nation. In other words, the national Prime Minister is not fundamental to the village, the local Prime Minister is What is more, he functions in day to day contact with the people whose representative he is, with the full constituency behind him."

community development programme

NIKITA KHRUSHCHEV AND BULGANIN, the Soviet leaders were on a visit to India during 1954, I was then the Administrator of the Community Development Programme. On me came the honour of taking the top leaders of the USSR across a token section of the programme at a distance of about 40 miles from New Delhi. Rarely have I had a visitor so tirelessly eager as Comrade Khrushchev in particular, to collect impressions as fast as he humanly could. After nearly four hours of travel and conversation, busy virtually every minute, they were dropped at the southern entrance of Rashtrapati Bhavan. As my car was ready to leave, I had the strange sight of Khrushchev running back from within the Rashtrapati Bhavan to have a sentence more with me on the basics of what we had been aiming as our ultimate objective of the programmes, planned and discussed throughout. "How long do you believe you will take to lay the foundation

"Every reorganised village then must have three basic Institutions-the Village School, the Village Panchayat and the Village Cooperative. You will wonder where lies the answer to your question "After Nehru, who" ?

across the country of community development, panchayats and cooperatives", he enquired of me as we stood outside the car. "Fifteen years," I replied almost with spontaneity. "No my dear Comrade", came the reply as a shot, "you will have to do it in a maximum of ten years from today, unless you wish to welcome a total retreat and be wiped off the scene, beyond the period I have indicated. Good luck to you and your people, Comrade". The episode ended, We never were to meet again I was left wondering.

THE COMMUNITY DEVELOPMENT PROGRAMME had been started on October 2, 1952. Panchayati Raj followed from October, 1958 and cooperatives in 1960. We approach approximately the

thirtieth year since then. A national programme encompassing nearly 200,000 Panchayats and a like number of cooperatives across the second largest population in the world, cannot stand still. It must move forward or retreat. An article, because of its character and content such as this, can be handled only in the form of a book. As a note, it cannot by its very nature, be relevant enough Therefore the current presentation is necessarily not a chronological one. It is an effort instead towards a cross section digest.

About the end of April, 1964, a call came from the Prime Minister' house around midnight. I found him in rather an unusually depressed mood. He enquired how the Panchayati Raj institutions were, and if they could survive, if an attack to demolish them totally had been made. My answer had to be a qualified one. From unquestioned "Power over People" in a number of states, more particularly the Hindi speaking belt, only a beginning of "Power to the People" had begun to flow against the erstwhile gravitation, in some of the states such as Maharashtra and Gujarat. Another five years could place these institutions beyond demolition. He reacted at once "You have no time, no time my friend, I repeat"

That was the last meeting I had with a noble heart and a gentle mind that lent the total sanction to carry the programme towards "Power to the People" as against "Power over them". May 27 And Nehru was to be no more With it also arrived a new age for India, of a genus opposite to what had been known as regards democracy that had begun to be emulated by many a land in the world.

THERE CAME ALSO THE CALL OPPOSITE to the parody on "The Tryst with destiny". Lal Bahadurji came to occupy the scene vacated by Nehru. One could breathe soon air of a different composition around one as well as the country in general. Dr. D.P. Mishra, pronouncedly an erstwhile intellectual of Madhya Pradesh, came to the political scene as the Chief Minister of this Central State of India. He had abolished the earlier District and local Boards as well as the Panchayats on the plea that these belonged to the ancient times and no longer valid in free India. Indeed, he had enacted a new legislation instead, filling in what had already begun to gain new currency in some states in the country. One cannot speculate exactly what transpired behind the scene, but with one stroke of the pen he abolished not only the name of Panchayati Raj and Sahakari Samaj but even the Community Development as a new process which had already held the scene far longer than a decade and pronouncedly with credit across the world, beyond expectation. He was blunt in his reply, when asked, that he had not become the Chief Minister to play with fancy ideas assuredly with his compliments to Nehru as well as the host of leaders who had slogged to usher in a comprehensive programme rooted to India's own past, and related intimately to development of India that lay in villages through untold ages. The awakening of millions from deep, ignorant slumber by itself, was an epic phenomenon transparent throughout, amazing to the world as a whole.

a question in Lok Sabha

EXPECTEDLY, A QUESTION WAS PUT UP FOR the Lok Sabha over the Madhya Pradesh scene. The author of this paper, felt stunned and shocked as the erstwhile Minister under Nehru, as to how a change of the kind that followed could ever flow in the land of Shankaracharya and of the Upanishads and the Gita. The Ministry of Community Development had been the pioneer to bring about the consultative council of the first Ministry in Parliament and its counterpart in the states offering room for MP's in the committees of the State legislatures, all these in response to an unprecedented demand from MP's for participation in what had been happening in the states covering all programmes of development that related to the rural scene. The national consultative council with 150 members had to be divided in turn into three sub-committees with meetings always during session at Delhi and each sub-committee in charge of one of the programmes—Community Development—Panchayati Raj or Sahakari Samaj.

"Dr. D.P. Mishra pronouncedly an erstwhile intellectual of Madhya Pradesh came to the political scene as the Chief Minister of this Central State of India. He had abolished earlier the District land local Boards as well as the Panchayats on the plea that these belonged to the ancient times and no longer valid in free India."

WHEN THE QUESTION ARRIVED IT LOOKED as if the whole house stood up with a volley of shots at the minister from every state, every party, as to why the ministry, totally superfluous as a fancy, should not be abolished at once and not in one state alone. I look back to that day now decades following the departure of Nehru, when we are all dressed up to celebrate his centenary, for what purposes I am not clear about. I had been aware though of the mighty skill we possessed as a class in the art of double think and double action in this yet primitive and development world. I shake within myself and wonder, how I could survive a burlesque in the Indian Parliament. Lal Bahadurji, stricty according to his manner, stood up, bowed his head towards the speaker, proceeded back towards the Prime Minister's Room No. Eleven. I followed him closely. As I entered, I told him that I wished to be relieved and forever. This was unconditional. I came on August 15, 1947 as a voluntary worker in Government. I exhausted the last resource I possessed on September 1, 1956. I was asked by Nehru to be a minister. I had children at the university to maintain. I had been an Engineer by profession with a degree of sophistication in specialisation. Nehru had not wanted me to leave. I remained to struggle and give all I humanly could.

the change to the needs of the institutions and the people.

THE TIME HAD OBVIOUSLY CHANGED. I no longer belonged there. As I said this, I remembered what Khrushchev had said in 1954 at the Rashtrapati Bhavan. Lal Bahadurji smiled and tried to laugh over the whole matter. "Dey Sahib", he said. in his traditional way, "you are not a politician but a professional man by character. How can you understand the politicians ? They are jealous of Panditji. They would all like to undo not you but Nehru and all he meant. But I know and must confess to you, I am not as great a believer in the village people as Nehruji was and cannot believe as he did, that Panchayati Raj would bring forth wisdom to run the country." I intervened at once and asked, "So Lal Bahadurji, you believe that a villager can become a Prime Minister but he will make a mess of himself as a sarpanch or as member of the Block Panchayat or Zilla Parishad." Lal Bahadurji reacted at once and told me that I did not understand him properly. The members,he said,wanted him to abolish Panchayati Raj and, how could he collaborate in this and what would people think of him doing this to the dream of Nehru's heart. No, he would call a meeting of the Congress Committee when the time was ripe and follow what the committee directed and thus avoid a stigma on himself. He asked me to have a bit of patience, and all these would sort out as they always do in politics. I realised we were talking at different wave lengths. I bade him good-bye, for the time-being. Well, I did not have to wait for his convenience either. Tashkent and Providence-worked on him.

abolition of panchayati raj ministry

AN EPILOGUE WOULD COME VERY FITTING to this paragraph. Kamaraj, the universally acclaimed common-man Chief Minsiter, when asked why he had not introduced "Gram Sabha"-even through a G.O. (Government Order). He asked if I desired him to rule the state or leave it to chaos in the hands of the people. He agreed to think this over saying "Parkalam". Parkalam still rules the scene. The Ministry of Community Development was a big lure for many a power broker-nearly with 200,000 Panchayats and a like number in the cooperatives. When Indiraji came to occupy the seat vacated by Lal Bahadurji, the ministry was abolished and amalgamated with the ever proliferating Ministry of Agriculture. The staff of the Department as it stood expanded considerably, contrary to poised consolidation and continuing contraction as a process that had begun in the erstwhile ministry. Now no one really knows what the department does in the new context. A subject matter ministry cannot coordinate other subject matter ministries. That alone accounted for quality staff of the minimum size of the ministry in the Indian Government. The ministry had no subject-matter of its own but of the training of both officials, non-officials as well as of people and the total responsibility of the institutions, the processes and the pursuit of subject matter ministries wherever their programmes or personnel had been found inadequate to the needs of the institutions and the people.

AFTER NEARLY FORTYONE YEARS OF THIS GOVERNMENT since Independence, I feel sure that it can be stated categorically without any doubt whatsoever that for India to grow and remain a democracy, Nehru's formula of the three basic institutions at the village and their unions, meeting at the centre respectively for Panchayati Raj and cooperatives is a totally unalterable imperative in a non-subject matter ministry as it had been to start with. What is equally crucial is that it should receive its sanction from the highest in the state as well as at the centre. Indeed, nowhere else in the world at large has such an extensive and massive effort been made to lay the network, institutional and programmatic foundation, based on and purring with democracy during the centuries behind. Rural India as continuum, but with essential urban amenities, will and can never get extinct, no matter what the current insane craze for five-star culture may be.

As we look back with a hind sight today, the consultative councils now are held in gala hill stations during summer and near sea coasts during winters for more soothing time and temper to serve our rural colossus. The cooperative federation at the national and state levels are handled as a game of musical chairs held by common musicians with slight adjustment between themselves under the aegis of the new ministry of civil supplies. Panchayati Raj with no functions left seriously to them, are no challenge to existing MLAs and MPs, or ministries at the centre and counterparts at the states to act as interlopers on their behalf at grassroots. All so sweet, smooth, and simple, and money so cheap at Nasik for the elite and the people at the top and middle at large. No wonder, politics was defined perhaps very wisely by a noble man as the "art of who exploits whom."

"The Ministry of Community Development had been the pioneer to bring about the consultative council of the first ministry in parliament and its counterpart in the states offering room for MP's in the committees of the State legislatures, all these in response to an unprecedented demand from MP's for participation in what had been happening in the states covering all programmes of development that related to the rural scene."

amending the constitution

RAJIV GANDHI, THE YOUNG PRIME MINISTER of India is getting his throat hoarse and hoarser. He cries over pilferage of money from Delhi to the people, through an endless chain of middle gentry leaving but thin air to reach the people at the end, the best of intentions on the part of his benign government notwithstanding. He is desperate to bring the collector the mainspring of power—at the District back to the erstwhile focus the latter enjoyed through centuries. Rajiv flies and drives across the states to broadbase

the message. He makes single-tracked demand for amendment in the constitution on Panchayati Raj as the basic answer to all fundamental problems of the land. Even the crucial AICC session, the latest one, felt almost a revolution on the march towards people as the means as well as the end in this centenary year of Jawaharlal Nehru.

"I feel sure that it can be stated categorically without any doubt whatsoever that for India to grow and reamin a democracy, Nehru's formula of the three basic institutions at the village and their unions, meeting at the centre respectively for Panchayati Raj and cooperatives is a totally unalterable imperative in a non-subject matter ministry as it had been to start with.

Strange, not even a leaf quivered, nor even a petal. The great party that accounted unquestionably for the long battle of our Independence stood dumb and mute at the call of the Prime Minister for "Power to the People" to help themselves—mysterious for mystic India. An enigma. It is as if the interlopers are the owners; people are the beggars in India !

Long time back. maybe moments, maybe eternity, one wishes to think of another winter morning, the sun still on the sky radiating all the warmth during a visit of a simple slender man to a small town. It was Jawaharlal Nehru on his last visit to Nilokheri. It was perhaps early 1951 as the year began. He was greeted by a brief address on behalf of Nilokheri through "Kurukshetra", then a weekly journal published by the Training Centre on printing at Nilokheri. The foregoing will have no meaning except in the background of something as sober as well as frightening likewise as a challenge, as it was merely thirty eight years back.

"Master, Master not alone !

Master the child is, the man is yet to be The bride has nothing, She has all.

The jungle is no more The pests are away The wilderness is a carpet The corn has ripened Lo ! The locusts at the yonder distance They also have a place

The wood stock compressed into the coal pit The coal pit led to the atom blast The golden key unlocked the iron cage The demon is out The demon is about

The far has come near The near has gone far The born sovereign approaches the summit The serf glides down to the bottomless abyss

The dawn, the dusk On the merging line—in tears, in smiles, in clouds, in sunshine—serene, the lone tower

Master, Master not alone !



Panchayati Raj— its validity

Vasant Sathe

The matter of immediate concern for planners, economists and politicians is to devise ways and means to arrest the ceaseless migration of rural population to urban areas, says Shri Vasant Sathe. A reputed social thinker and a senior Minister in the Union Cabinet, Shri Sathe has traced the origin of panchayat system, its gradual growth, and phased decline after the formation of industrial society, in an extremely convincing and logical way. He has questioned the relevance of the old panchayat system in the modern world of advanced technology and the circumstances created by economic compulsions of present times. His theory is that by merely providing an elective institution to the villages, the problems faced by the rural masses would not be solved and it would amount to just a superficial exercise. He holds the view that while large scale economies could be located around urban areas, small scale, labour-intensive units producing a wide variety of consumer items, could be reasonably planned for rural regions, which in turn could help the growth of agro-industries. This, in his opinion, will be conducive to a balanced national growth and ensure definite development in all dimensions.

BEFORE WE DISCUSS THE LARGER QUESTION of revival of the Panchayati Raj system, it is necessary to understand its origin and the reason for its survival and prevalence over a long period in the history of our country. Panchayati Raj essentially means a body of five *(Panch)* members who were elected or chosen by the people in the villages and were accepted as the leaders who would guide all socio-economic activities of the village and would also be the arbitrators and a judicial tribunal in matters of any dispute among the members of the community. In short, the Panchayat became the democratic self-governing institution of a village. Normally the learned and experienced members of society were chosen and accepted as the *panchas* of the Panchayat. It held a sway

on almost all secular matters, although in religious or temporal matters every individual was governed by the rules of the religion to which he belonged. Even when disputes arose and the question of imposing any penalty for temporal violation came up, the matter was referred to the Panchayat. Thus, for all practical purposes, the Panchayat was a body that regulated the life of the community living in a village.

origin of caste

IN THE ECONOMIC STRUCTURE of the village there was an in-built homogeneous and harmonious self-sufficiency. Traditionally a community acquired the character of a village only when it had all the

"It is very essential to remember this economic factor where production of cloth, iron and steel articles, copper and brassware, leather goods, edible oils and many other consumer items which were originally produced in the village by the people belonging to the traditional avocations got centralised in the factories of urban areas and the people in the villages practising these avocations were systematically deprived of the source of their livelihood."

facilities or most of them necessary for a stable rural life available in the village itself For example, although production of foodgrains was the basic avocation, simultaneously there had to be avocations such as those of weavers of cloth, potters, iron smiths, carpenters, oil crushers, milkmen, tailors, washermen, goldsmiths, cobblers, artists and priests and similar other categories of people working in different avocations required by the society As a matter of fact, over a period of thousands of years, these avocations which developed specialisation and as the knowledge was passed on into families from parents to their children, these avocations were recognised as what came to be established as castes. But the fact remains that to complete the economic stability of a village, the existence of people belonging to most of these avocations was an essential factor and the economy of a village, traditionally dependent on a system of barter where goods services were exchanged among all these avocations. As stated above, this brought about a self-reliant economy in a village and its stability was ensured by the existence of the institution of Panchayat, where the Panchas guided the entire affairs of that society.

SIMULTANEOUSLY, HOWEVER, A FEUDAL SYSTEM of landlords, patels, zamindars and rajas developed over a period of centuries, who dominated the socio-economic life and there used to be either benevolent or oppressive effects of their rules, depending upon the manner in which these authorities would deal with the people living in the villages. The life was disturbed whenever there were wars between the rulers but, by and large, the land remained and around it the self-reliant, self-supporting economy of the village also continued in a stable, undisturbed manner from generation to generation. On this base grew a culture and civilisation that has survived over four to five thousand years.

exodus from village

IT IS ONLY WITH THE ADVENT OF an industrial society that things have started changing. The effect has been both in the economic field and also in the political field. Economically, although production of agriculture and agricultural produce has still continued to be based on land spread out in the villages of the country, production of other consumer articles which were originally done by the people in different avocations in the village itself, slowly but steadily and surely, came to get divested from rural economy and got centralised into urban pockets where manufacturing units and factories were established on the basis of what is called large-scale economies and these consumer goods were then supplied to the consumers spread out all over the country. It is very essential to remember this economic factor where production of cloth, iron and steel articles, copper and brassware, leather goods, edible oils and many other consumer items which were originally produced in the village by the people belonging to the traditional avocations got centralised in the factories of urban areas and the people in the villages practising these avocations were systematically deprived of the source of their livelihood. What has happened in the villages over this period of past more than one hundred years of industrial era is the fact that while the population dependent on these traditional avocations has been deprived of the source of their livelihood, they had no other alternative avocations provided by the industrial society in the rural area itself. Therefore, they were forced either to migrate or to become landless labourers perpetually dependent on agricultural work provided by the landowners. But here also, with the growth of population, land holdings in families got fragmented from generation to generation and majority of landholders started having small or marginal land holdings, the effect of such fragmentation was drastic on those who already had small holdings initially.

"It is true that some people have managed to hold larger landholdings in a clandestine manner, but this is only in violation of the laws and not as legitimate system. Even then it is a fact that more than 70 per cent of the land still continues to be held by less than 20 per cent of the people who are land-holders in rural areas.

THUS, PEOPLE WHO TRADITIONALLY LIVED on the main agricultural avocation of production of food-grains, also were reduced to become agricultural labourers as they knew no other avocation. It is a fact that after Independence, with the abolition of zamindari system and introduction of land ceiling laws,

large landholdings held by few rich rajas and zamindars were abolished and majority of landholders held land within the limits of the ceiling. It is true that some people have managed to hold larger landholdings in a clandestine manner, but this is only in violation of the laws and not as legitimate system. Even then it is a fact that more than 70 per cent of the land still continues to be held by less than 20 per cent of the people who are land-holders in rural areas. Thus, a majority of land holders, as stated above, are small or marginal land holders, who for a substantial period in the year have also to work as agricultural labourers.

economic earthquake

THUS, THE PICTURE OF AN AGRICULTURAL society where 80 per cent of India's population still lives, is a picture of what one can call an "economic earth-quake", which has uprooted the traditional self-reliant economies of villages and has reduced majority of the population living in villages to only one class, namely, of landless labourers. With the passing of every generation and the resultant growth in the number of families, the small and even medium land holdings got further fragmented and more and more people in the rural areas joined this vast ocean of landless labourers

ALONG WITH THIS TOTAL CHANGE in the economic life in villages, there has been a simultaneous change in the political life as well. The old rulers, the zaminders, the rajas the other feudal elements disappeared even during the colonial period and progressively a new administrative and political structure in tune with the industrial society came to be established particularly after independence. A new political system of political parties elected to the democratic institutions of Parliament and Assemblies at the Central and State levels came into being The whole administrative structure, right upto the district level, was altered and placed under the authority of a civil administration run from national and state levels. The entire cadre of administrative officers, both for maintenance of law and order as well as for collection of revenue and other welfare activities, was conducted through these authorities Thus, the old feudal system was replaced by a new centralised administrative system of the industrial era.

ANOTHER OUTCOME OF INDUSTRIAL ERA was the coming into existence of a new class which dominated the economic scene. This was the class of the capitalist who controlled the industries as well as the trade and business dealing with the industrial produce. They in fact replaced the erstwhile feudal landlords who dominated the economic and social life. This new class of industrialists and capitalists, for all practical purposes, started controlling and moulding the living conditions and life-style of the new society. Along with it automatically developed a centralised work force in the organised sector. This gave rise to organised labour unions and a new political force in the form of trade union movement of this organised labour came into existence. With the industrial society also grew a new force of well educated citizens, educated in science, technology, literature, the arts, on the basis of large-scale education through schools and colleges and other institutions. Thus, a major force of middle-class educated elite also came into existence. It is this class which, in essence, led the social and political movements and provided the political and economic structure for the new industrial society. It is this class that was at the helm of political movement during the freedom struggle and it is again this class which has provided the entire cadre for governmental, administrative as well as for political institutions like Parliament, assemblies, etc. It is from this class that captains and managers as well as technical people were obtained, both for the centralised industries as well as for business and trade.

the growing urban congestion

THUS, AS A RESULT OF INDUSTRIAL revolution a whole new class of urbanised society came into being controlling both production of infrastructure and even consumer goods, and also, for all practical puroses, controlling and guiding the political life of the country. It is pertinent to note that if production of foodgrains and other agricultural produce was not still required to come from the land, even these would have got centralised. Fortunately, that has still remained land-based and it is because of this that majority of our population still continues to be stuck with agricultural operations and surviving on the rural economy. But the tragic effects have already started becoming apparent.

> **"It is a tragedy that short-sighted politicians, economists and planners resort to the expedient measure of creating more and more industries in these urban pockets themselves, hoping to provide employment to these incoming, ever-growing teeming millions.**

HAVING BEEN DEPRIVED OF TRADITIONAL avocations in the rural areas and progressively being denied work even in agricultural operations *per se*, a large work force of these unemployed people in the rural areas is forced unwillingly to migrate to the urban areas where they can at least eke out a living. Entire families today are flooding into these major urban pockets, particularly of the metropolitan cities. They are virtually living in the slums, gutters and footpaths. The magnitude of this problem will be obvious when we consider the fact that more than 2 to 3 lakh people migrate into the cities of Delhi, Bombay and Calcutta every year and today nearly 40 per cent of the population of a city like Delhi or Bombay lives in these slums. If timely measures for preventing this distress migration are not taken, slowly a stage will come when the major portion of the population of these urban pockets would be of slum dwellers. It is a tragedy that short-sighted politicans, economists and planners

resort to the expedient measure of creating more and more industries in these urban pockets themselves, hoping to provide employment to these incoming, ever-growing teeming millions. In this process they generate greater concentration and congestion in these small islands of metropolitan cities, creating along with them unhygenic living conditions, problem of transportation, housing, drinking water, medical facilities and other amenities.

revival of panchayat system

THIS, IN SHORT, IS THE SCENARIO of today's economic structure of the entire Indian society. It is only in this background that we can think of the

"The tendency is just to think superficially and simplistically of providing an elected institution and making elections mandatory to these panchayats under a Central law. The fact that Panchayat system has not succeeded and survived mainly because of its having become irrelevant to the socio-economic life of the village in an industrial society is conveniently ignored."

structure of our village societies and consider the question of revival of the institution of panchayat which was an essential feature of a self-reliant village economy and mutually dependent social structure. When we think of Panchayati Raj today, we are superficially thinking only of giving political power, meaning thereby, that we want the *Panchas* of the Panchayat to be elected by the people in the village so that the people of the village as a whole may have a voice in the affairs of the Panchayat. Earlier, traditionally what were known as elders from different sections of the society constituted the Panchayat It is possible to replace them through elected representatives To that extent it will become more democratic But the pertinent question will be as to what power will these Panchas exercise in the day-to-day socio-economic life of the people or the community living in these villages. Unless this becomes clear, in our scheme of revival of the Panchayat system, mere revival of the institution would not help and it would be a superficial and redundant exercise. The issue is so basic and big that the very magnitude of the problem scares the planners, economists and administrators and they want to skirt it and circumvent it by avoiding the issue. The tendency is just to think superficially and simplistically of providing an elected institution and making elections mandatory to these panchayats under a Central law. The fact that Panchayat system has not succeeded and survived mainly because of its having become irrelevant to the socio-economic life of the village in an industrial society is conveniently ignored and it is being felt that merely by providing an elective institution, the problems of people living in village can be solved. I would like to quote here the observations of Pandit Jawaharlal Nehru, In his speech entitled **"Crossing the barrier of poverty"** delivered in 1958. He said:

"If left to normal forces under the capitalist system, the poor will get poorer and a handful of rich richer. It is true that the state will intervene. From the riches of the rich it will provide the poor with education, health, housing and other amenities. But such interference does not solve the basic difficulty of a system which widens the gap"

He further stated that the role of planning was "essentially a process whereby we stop these cumulative forces at work which make the poor poorer and start a new series of cumulative forces which make them get over that difficulty. We have to stop the cumulative forces which make rich richer and we have to start the cumulative forces which make the poor to get over the barrier of poverty". In other words, a programme of alleviating poverty of the people at the grass-roots level cannot be effective unless measures are taken to stop the accumulation of wealth in the highest class of the society.

regenerating self-reliance

THUS, WHILE IT SHOULD BE CLEAR TO ALL concerned that in the revival of the Panchayati Raj system it will be imperative to think in terms of reviving the economic system of self-reliance in the rural areas, we can still think in terms of providing a structure of administration, which indeed would provide and facilitate the revival of such a self-reliant economic and social polity in the rural areas themselves In modern industrial society, it would not be possible to make the village as an economic unit of self-reliance based on traditional avocations. We will have to think of a larger unit and the best decentralised unit for economic growth that would be a district in today's political and administrative context. The idea of Panchayati Raj essentially is based on the principle of involving the people themselves directly in the management of their affairs because it is the people who know best what their problems are, what their priorities are and what could be the best solutions to suit their requirements. If we make the district as a centralised unit of democratic self-administration by creating the institution of Zilla Parishad through elected representatives from village panchayats, then village panchayat as a basic unit will become a reality. This Zilla Parishad at the district level should, for all practical purposes, have all the powers of a district government, both for economic development of the entire area in the district and also for political and administrative governance. Modern technology and scientific development make it possible to establish industrial units to produce practically all essential consumer requirements in the district itself. We will have to take a calculated and positive policy decision nationally as a government to ensure that all consumer goods which are capable of being produced on a decentralised and labour-intensive small-scale basis, must essentially be produced in this manner and all production of such articles on centralised basis will have to be deliberately banned. It is a fallacy to think that goods cannot be produced on decentralised basis. Modern technology makes it possible to produce practically every consumer article of high standard in

industries run on small-scale sector. It is possible to have machines and tools operated with electrical power to produce all these articles, even on decentralised basis. The idea must be to provide employment for productive purposes of producing goods and services required in the rural areas themselves. It is only such productive work that can provide the purchasing power to the people in the rural areas and can thereby create an economic market for the vast population living in rural areas. When this demand is generated for this economic market, production should also take place in the rural areas themselves to meet this demand. It is only then that a decentralised and balanced growth of our entire population will take place. Then alone will political decentralisation at the district level and further down to the Panchayat level will become a reality.

decentralised dispersal

IT SHOULD BE POSSIBLE, as a matter of national planning to decide that industries which by their very nature, like production of infrastrucutre inputs such as steel, heavy equipment and machines for plants, fertiliser, cement, aluminium, construction of power houses and dams or production of railway engines, automobiles, ships, heavy earth-moving equipments like bulldozers, tractors, cranes, and aeroplanes, defence equipments such as tanks, and such other articles, which by their very nature have to be produced in factories set up on the basis of economy of scale—but very large number of consumer items which are required for day-to-day living, to provide the necessities and to improve the quality of life of the people, can and must be produced only on labour intensive, decentralised basis, particularly for a country which has as such a large population spread over the entire area of its land mass. Such a decentralised dispersal in consumer industrial sector can also help the growth of agro-industries which by their very nature can be best located in the rural areas and can help in augmenting the production of consumer food articules, such as dairy products, poultry or fishery, horticultural products, vegetables and other items like beekeeping, sericulture, medicinal herbs, etc. Thus the entire quality of life in our rural areas can be changed. Decongestion of our urban centres can and will have to be taken up as a positive measure. This will not only ensure balanced growth of our nation, but will also prevent the growth of a highly distorted and exploitative socio-economic system, which today is threatening not only economic but also our social and political life, and in turn, the very integrity and unity of our country. ■■■

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Is Panchayati Raj a futile phantom ?

V.R. Krishna Iyer

A great legal luminary and a legislator of extensive experience, Justice Krishna Iyer knows the pulse of the people. In this article, he has given a thorough analysis of the causes of decline of the Panchayati Raj system, and his verdict invites attention of that section of our people which has deep concern for the development of the country. Justice Iyer bases his thesis on the major premise of constitutional compulsion to invigorate village units of government operated by the popularly elected members of the weaker segments of the grassroots society. He believes that once it is done, true democracy would blossom in India. He has great faith in the genius of the rural masses when he says, "the vast reservoir of human resources in our rural regions is the real wealth of talent in making India Indian and Indians realise swaraj through gramraj." Coming to a logical conclusion, the author tells us that the vibrant wheels of village panchayats are the proper mechanisms of the country's rural development. Because, "plans should no longer be imposed from above, but must involve those who have to live with them."

THE HUMAN ESSENCE OF GOVERNANCE by the people is the reality of participative opportunity the humblest can command in the processes of State Power. Quotational validation of this democratic proposition from Lenin, Lincoln, Gandhi and other leading humanists of the world is abundant. And the source of State Power and the beneficiaries of its exercise being the people their supremacy as the sovereign is a categorical imperative of modern political systems. So it is that our founding fathers built the constitutional edifice on the bedrock of "We, the People of India." This phrase is not phoney sentiment nor evocative incantation but the constitutional fundamental of democratic decentralism. Politics *where man matters* is the paramount principle. Indeed, even the great Charter of the United Nations emphasizes the

PANCHAYATS : ROOTS OF THE REPUBLIC

worth of the human person and his fundamental freedoms and the root rule of a Republic is the quantum and quality of the right of the small citizen in influencing the affairs of Administration. Where nearly a billion humans are a country's demographic immensity, where language, religion and culture divide and diversify the nation, where the complexities of modern government and the enormity of global problelms are beyond the ken and reach of small men with limitations of comprehension, it is inexorable political dialectics that systemic mutations must be wrought to enable lesser groups in little circles to play their part as engineers of self-government. A giant machine operated by file-logged bureaucrats illiterate about humans and obsessed about rules and political egoists drest in a little brief authority will reduce the rural dweller to a paper partner in the mysteries of a mighty regime. Accountability of authority, responsiveness of 'responsible' governments to the voice of the populace and the effectiveness of control by the lowly villagers assumed to be illiterates of the mammoth operations, national policies and incomprehensible legislations are currently minimal and largely confined to those polluted, periodic, political floods called general elections where the little man, with a little pencil, makes a little mark on a little paper in a little booth and loses his relevance until the next ballot battle revives his micro-importance. This is mockery of democracy, the opium of self-government. That is why 'power to the people' is teasing illusion and promise of unreality unless full-blooded decentralisation of the Power Process becomes integral to the constitutional order. If India lives in her villages, as Gandhiji has constantly reminded us, the villager can never be sharer in State Power if we do not so restructure the instrumentalities and their operational methodology as to allow the rural, 'backward' sector a seat at the wheel. 'All Power to the Soviets', as Lenin envisioned it, and Power to the Panchayats, as Gandhiji desiderated, are the political expression of democratic dynamics, the social manifestation of home rule at the base. Pyramidised power, concentrating its control in the hands of those who rule from the tower, alienates the village communities who are the real India.

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babels of powerless power

SWARAJ IS MIRAGE SO LONG AS Panchayati Raj is sentenced to suffer living death. True democracy blossoms in India only when the monopolists, cornerers, racketeers of State Power at the Central and provincial levels—the mafiaso and megalomaniacs of politics—agree, by constitutional compulsion, to invigorate village units of government operated by the popularly elected surrogates of the weaker segments of grassroots society and endowed with such powers and authority, legislative, executive and judicative, as may be necessary to enable them to function as people's administration without bureaucratic inhibition or genuflecting bhakti towards the ministerial divinities or vanishing cream of bossist politics. Art 40 of the Constitution is not a pious hope or paper dope but a 'principle fundamental in the governance of the country', free from any dependencia syndrome and functioning as the developmental tool of the nation at the village level. The dynamic jurisprudence and developmental jurisdiction of Panchayati Raj have had a cinderalla saga of local self-government in Gandhian country even after Independence. *'Tees January'* is a tragedy of many poignant dimensions one of which is the deliberate disinclination to trust village India with the power to administer and to function as the basic units of self-government. The phoney homage to the faith in the people is confined to harmless tributes but never extends to functionally vibrant, developmentally oriented, power-sharing microcosoms of State with autonomy, authority and accountability in the trinity of sovereign instrumentalities — the Executive, Legislative and Judicative—limited to levels conditioned by pragmatic realism. Today Panchayats, where they exist, are futile phantoms and precarious creatures, pathetic pictures of village babels of powerless power, have no decentralised democracy, have minor executive minions bossing it over the elected members with bureaucratic self-importance. They are superseded at pleasure by State Governments for political allergies disguised by legal pretexts. Anyway, no one takes Panchayati Raj seriously, regardless of ideology. Who will part with the alcoholic habit of State Power as minister? Karnataka and West Bengal have, however, experimented with truth in some measure in this field but an objective evaluation, free from Party baloney, needs to be undertaken before saluting them for small beginnings. Rural development, national integration and patriotic participation in the country's progress along a secular socialist direction is possible only if Gram Panchayat culture, without political reservations, is metabolised into the system as a fundamental imperative. No plenary panchayat, no people's democracy, is a militant axiom. Command and control from the Capital must be an anathema. Institutional justice to local self-governing units is basic to decentralised democracy, the core of our economic heritage. Then why is this desideratum denied, this Gandhian creed crucified? The corrupt appetite to cornet power and the unhappy apprehension that the dialectics of panchayat politics, with its own popular dynamics, may shift, in certain regions, power from the State Party to the Opposition. What Republic is stable if it is built on sandy foundations of Parties lost in the blood feud for Power for themselves? Party for the People, if subverted by the doctrine of People for Party, gives short shrift to Development geared to the participative processes of constructing a new social, economic and political order to the 'eternal tenants of

an extortionate system'. That system of centuries which, thro' feudal and colonial ages, has held the *pariahs* of our social order prisoner, must be liquidated and an oxygen tent of social justice and development tryst installed by transfer of Power to the proletariat in each village.

benefits of mass participation

THE PRAGMATIC PHILOSOPHY OF miniaturised participative democracy, where man—every man, woman and child—matters, is the cornerstone of developmental dynamics. Says Paul Harrison:

"The ideal of participation is gaining much wider currency in all spheres. There is a growing consensus that development can be accelerated if the energies and resources of the people are mobilized, and that the poor have a basic human right—hitherto denied them by unequal power structures—to take part in making the decisions that affect their lives and livelihoods. This idea was incorporated in the International Development strategy for the United Nations' Second Development Decade, adopted in October 1970, which affirmed that 'every effort will be made to secure the active support and participation of all segments of the population in the development process'

(The Third World Tomorrow p 36)

"If India lives in her villages, as Gandhiji has constantly reminded us, the villager can never be sharer in state Power if we do not so restructure the instrumentalities and their operational methodology as to allow the rural, 'backward' sector a seat at the wheel."

MOREOVER, THE IDLE VILLAGER sunk in despair, is the devil's workshop. He has the energy and the will and the right to contribute his patriotic mite. Give him the creative milieu. Writes Harrison.

"The potential benefits of mass participation are immense. Participation in implementing projects reduces their cost by mobilizing unused local resources and free human energy. Participation in decision-making provides planners with much better information on people's wants and dislikes. It helps to avoid the kind of disastrous errors, failures and white elephants with which the history of development is littered, usually because the supposed beneficiaries were not adequately consulted. Participation in productive enterprises is increasingly fostered by way of service or producers' cooperatives. In this context it can boost morale, increase productivity and reduce negative and destructive conflicts between managers and managed, from go-slows to sabotage. In many places the poor live in a state of passive inertia because of their total powerlessness in the face of entrenched elites; this inertia affects not only their involvement in public life, but infects even their family and home life. For these people, participation is an educative process. It can give them confidence for the first time in their ability to control circumstances instead of being controlled by them. By broadening the base of decision, it reduces the chances of development strategies being adopted which benefit only a small minority, and hence improves the chances for the adoption of the new egaliterian and poverty-oriented approaches."

(Ibid. P. 36-37)

panchayats—hotbeds of factions

A SOMEWHAT SUBSTANTIAL OBJECTION to elected panchayats with financial, judicial and administrative jurisdiction is the deep and die-hard factionalism in our villages. Village feuds, caste conflicts, political clashes and violent communalism mar the co-operative exercise of governmental functions. Misuse of funds, feudal oppression, denial of equal opportunities for women, terror against harijans and girijans and subversion of elections are pathologically pervasive in the countryside. While in many parts of India this sombre apprehension is a gross exaggeration, in large parts of the land the potential for such anti-democratic forces undermining panchayat programme is real. To get women and S.C./S.T. members elected, reservation of seats is justified. To overcome village factions is a tough proposition but that cannot be a ground to abandon popular government. Nor is communalism, undeniably operational, an argument of substance Of course, pressed to its logical conclusion this same reason was used against giving Independence to Indians. Do we not have frightful political, communal factions in public life? How about corruption on a macro-scale? And yet, we are moving forward, though zigzag, as a nation. No valid reason to reject grassroots self-government exists. Surely, there will be graft, favouritism, nepotism, casteism, plus plus. Even so, these experiments with untruth will eventually open the political eyes of the populace. The ultimate judge of who should govern, whether at the Panchayat or national level, is the people, maybe ignorant, illiterate, parochial or unwise. Is not the Prime Minister, or for that matter the Chief Ministers, the leader of a Party furiously opposed to the Opposition and sometimes illiterate *vis a vis* their portfolios? But that is the risk of the parliamentary process. Bernard Shaw once remarked:

"To-day Panchayats, where they exist, are futile phantoms and precarious creatures, pathetic pictures of village babels of powerless power, have no decentralised democracy, have minor executive minions bossing it over the elected members with bureaucratic self-importance."

"Democracy substitutes election by the incompetent many for appointment by the corrupt few".

At the floor level, there may be crudities, savageries, feudal

strategies and naked attacks. Worse happens at higher levels but with strategies and tactics more deadly, more corrupt, more concealed. But once you involve the common people in the art of government at the base of the pyramid the gains are great, the political activisation immense, the broadening of available cadres for running the Administration critical and the strengthening of the democratic structure significant.

I AGREE WITH PAUL HARRISON that local participatory democracy is a big step forward:

"To overcome village factions is a tough proposition but that cannot be a ground to abandon popular government. Nor is communalism, undeniably operational, an argument of substance. Of course, pressed to its logical conclusion this same reason was used against giving Independence to Indians. Do we not have frightful political, communal factions in public life? How about corruption on a macro-scale? And yet, we are moving forward, though zigzag, as a nation."

"Elected village and district councils were given a voice in development planning and in choosing several types of grassroots worker. What happened was that the larger landowners used their patronage and pull to win places on these councils, and proceeded to use their new powers to allot extra privileges to themselves. Any paid positions, for example, would naturally go to relatives or clients.

Real community participation can only exist where people have common interests, where everyone can expect an equitable share of the benefits of development and everyone has access to sufficient land or other means of earning a livelihood. So redistribution of land, assets and income may be a precondition of meaningful community participation"

(Ibid P. 298)

IT OFTEN HAPPENS THAT THE ELECTIVE process has concealed snags unless suitable safeguards are built in against village mafia capturing Panchayat Power. Let me quote Harrison again:

"To follow the Western model of representative democracy in grossly unequal societies is to invite domination by economic elites. In a polarized society a representative will usually only fairly represent people whose interests he or she shares. Council members who are landlords can only be fully relied upon to represent the interests of landlords. The zebras of the poor countries all too often electlions to represent them, and when they do they can only expect to be eaten."

(Ibid. P. 299)

release of untapped resources

THE INITIAL DIFFICULTIES may be real, but will wear away as people's consciousness rises through experience. On the other hand participation in rural development through Panchayat instrumentalities releases untapped resources:

"Participation reduces costs and mobilizes the most valuable of all underused resources: human energy and creativity. But participation also implies grassroots democracy in the workplace and the community. As a minimum it must mean that plans should no longer be imposed from above, but must involve those who have to live with them."

(Ibid. P. 344)

IN MY OWN EXPERIENCE AS A MINISTER long years ago confirms my conviction that when panchayats are entrusted with performance of developmental prrojects whole villages are afire with enthusiasm.

POWER TO THE PEOPLE MUST BE translated into decentralised circles for responsible exercise by competent representatives. So arises the need for accent on efficiency and responsibility in the elected managers. We may spell out the requirements of choosing local candidates with aptitude, integrity, service antecedents, social commitment and experience in human affairs and institutional control. True, these printed principles are shot down by the local, feudal mafia in many cases. But social locomotion gathers momentum thro' democratic, thro' traumatic, struggles. The allied problem of factional stranglehold over village life, suppressive forces excluding the weaker gender and sector can be overcome partly by legislative safeguards and also by mobilising and militantising these exploited classes supported by progressive political elements. Unless we conscientise the people thro' waves of democratisation, we will be lost. We can't be fatalistic and give up the fight that reform is futile. In the Shakespearian lines:

"The vast reservoir of human resources in our rural regions are the real wealth of talent in making India Indian and Indians realize swaraj thro' *gramraj*."

"The fault, dear Brutus is not in our stars,
But in ourselves, that we are underlings"

(Julius Caesar)

A quantum jump to village self-government may not be easy. But better late than never.

THE NEXT SPINAL ISSUE IS ABOUT the area of State Power which may be entrusted to the Panchayats, knowing their limitation and the need to fit into the overall scheme. Should we charge these rural organs of limited government with functions legislative, judicative or executive? Should they be more than talking shops? Should they be bare ballot exercises

bereft of constructive right to administer? Should some legislative powers of local relevance be vested if they are best exercised at that level with local colour, pragmatic adaptations and revisable when tested by suitability—but within the parameters uniformly applicable to like institutions? Should judicial power, with sufficient safeguards against partisan abuse and likely legal illiteracy of the members, be within the jurisdiction of Panchayati justice? Should limited police powers be enjoyed by it and if so, how should co-ordination, subordination and operational co-operations within the larger framework of law and order, criminal investigation and prosecution be worked out? Many laws can be best implemented and cases under them tried, even investigated at Panchayat level, if only we have faith in common people and do not suffer from snobbery syndrome. The Jury system in the U.K. and the U.S.A., the People's Courts in the U.S.S.R. are examples. May be, block level panels, some legal literacy courses, qualifications and disqualifications may be statutorised.

"The Gram Panchayats shall be entrusted with the dispensing of justice, no separate judicial panchayats are necessary. The poor peasant need not go out of his village, spend hard-earned money and waste weeks and months in towns on litigation. He can get all the necessary witnesses in the village and fight out his own case without being exploited by lawyers. When intricate points of law arise, Sub-Judge from the Taluka, or District could come down to the village and assist the Panchayat in deciding difficult cases. The Sub-Judge shall also act as guide, friend and philosopher to the ignorant villagers by acquainting them with the laws of the State. Such a judicial system will not only be simple, prompt and cheap but also just because the details of civil criminal cases will be, more or less, open secrets in the village and there shall be hardly any scope for fraud and legal juggleries."
-Gandhiji-Harijan 22-7-1946.

the reliable rural genius

DEVELOPMENTAL PROJECTS, CATEGORISED by principled pragmatism and helped with appropriate expertise, may well be left to popular creativity and participative roles. The fundamental assumption, of course, is that given the freedom to carve out multi-dimensional local self-government, our rural genius will measure up to the challenge. In an elitist atmosphere where it is fashionable to exaggerate villagers' weaknesses and urbanites' abilities, it is easy to sell the sophistries of Doonocracy and scuttle people's democracy. This pathological perception has to be fought by a massive movement debunking the thesis of blue collar, white collar and other apparels and incarnations.

"Full many a gem of purest ray serene,
The dark unfathom'd caves of ocean bear:

Full many a flower is born to blush unseen,
And waste its sweetness on the desert air.
Some village-Hampden, that with dauntless breast
The little tyrant of his fields withstood;
Some mute inglorious Milton here may rest,
Some Cromwell guiltless of his country's blood."

—Thomas Gray

The vast reservoir of human resources in our rural regions are the real wealth of talent in making India Indian and Indians realize swaraj thro' *gramraj.*

THIRD WORLD COUNTRIES, AFTER CENTURIES of desperate disabilities, feudal and colonial, are now struggling to level up through historic efforts at national development. "The purpose of development should not be to develop things, but develop Man" (Cocoyoc declaration). Westernization dominated the thinking and efforts of developing countries, development agencies and the models aid donors offered. The developmental elite gladly fell victim to the highly centralised, terribly industrialised pattern and plans. In India, Delhi became the decisive centre of developmental projects where decisions were taken, experts operated, bureaucrats sanctioned and politicians spread the message of the giant wheel of progress, but soon disenchantment came because the people found

"Mahatma Gandhi himself became an anachronism because he stood for a people's model at the village level. Gandhiji foresaw the pitfalls of developments centred round cities and large scale industries, with mass production, massive pollution and total alienation of the common people."

they were irrelevent, the specialists having taken over what was good for the countryside. Mahatma Gandhi himself became an anachronism because he stood for a people's model at the village level. Gandhiji foresaw the pitfalls of developments centred round cities and large scale industries, with mass production, massive pollution and total alienation of the common people. He also warned against the dangers of urban development at the cost of all the villages where the people in their numbers lingered and lived.

"We have to make a choice between India of the villages that are as ancient as herself, and India of the cities which are a creation of foreign domination. Today the cities dominate and drain the villages so that they are crumbling into ruin."

(The Third World Tomorrow-By Paul Harrison-P. 17)

proper mechanism for progress

GANDHIAN TECHNOLOGY WAS VILLAGE centred using local talent and material, local monitoring and supervision and local passion and pride in performance. For him every village was to become a self-governing and self-sustaining economy run on democratic participatory lines by a Panchayat.

(Contd. on page 31)



Panchayati Raj : Two alternative approaches

Jyoti Basu

A reordering of the distribution of land and other productive assets in rural areas of West Bengal has led to a perceptible growth in agriculture and cottage and small scale industries, says Shri Jyoti Basu, Chief Minister of the State. In his article, he asserts that the emphasis on land reforms is not a mere exercise in charity, but essentially a productive move based on hard evidence of superior performance on the part of working peasants. The Chief Minister points out that the cost of development schemes implemented by the Panchayats is significantly less as compared to the cost of the projects executed under conventional procedures. The reason behind this remarkable fact is the avoidance of contractors and the supervision of Panchayat members, he explains. He anticipates that the West Bengal proposal to allocate fifty percent of annual plan expenditure to district and block level would be a precedent which may be followed by the entire country in future. In this article, the Chief Minister also refers to the Mid-Term Appraisal of the 7th Plan presented by the Planning Commission in support of his conclusions.

THERE CAN BE TWO ALTERNATIVE APPROACHES to the Panchayati Raj, and these are related to two alternative approaches to rural development planning.

IN ONE APPROACH TO RURAL development planning, we may choose to begin by accepting the existing unequal ownership distribution of land. In other words, we may choose not to take effective measures on land reforms. If we choose to do that, we shall be close to the present national scenario on this issue, for, despite a few statements of good intentions, no serious attempt seems to have been made to alter this unequal distribution of land holding. The resultant, persisting, inequality in the ownership distribution of land has been noted in the Mid-Term Appraisal of the

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Seventh Plan by the Planning Commission itself. It has been mentioned, for instance, that according to the latest information available, for the country as a whole, only 28.8 per cent of land is under the ownership of small and marginal farmers and the remaining 71 2 per cent of land is owned by bigger farmers (see Chapter 2 of the Mid-Term Appraisal) As a consequence, in this strategy, the planning for production has tended to be viewed through the eyes of landed gentry in agriculture. There has been, as a result, also a tendency to adopt technology which is overly capital-based with inadequate absorption of labour force in production, causing unemployment and insufficient generation of purchasing power of the common people. That such technologies can indeed be labour-displacing has again been noted in the Mid-Term Appraisal of the Planning Commission (Chapter 2, P 32).

unequal access to assets

THIS IS AN APPROACH WHERE the basic priorities of planning are not in favour of the common people. The priorities are centred around perhaps the top 10 per cent of the rural households. In such a situation, without land reforms and therefore, with an extremely unequal access to the production assets, there is a propensity on the part of the ruling power not to hold the Panchayat elections (incidentally the Panchayat elections were not held for about 15 years before the Left Front Government came to power in 1977) or not to hold the elections under democratic conditions. In such a situation, even if the elections are held, the Panchayats often get dominated by the more affluent class in the rural areas The Panchayat Raj under this approach to planning can not have a representative character, reflecting the interests of poorer classes in the rural area. The common people in the rural areas cannot truly get involved in the activities of such Panchayat Raj. If, then decentralisation of planning is talked about through the Panchayats under this approach, it cannot be any effective grassroots decentralisation with participation of the common people at the base level. It may then only amount to decentralisation on paper and to mechanical disaggregation of schemes, without the true participation of the common people at the base level.

"This emphsasis on land reforms, it may be noted, is not any exercise in charity, but is essentially a productive move on the basis of hard evidence of superior production performance on the part of working peasants."

reordering distribution of land

IN WEST BENGAL, FOR THE LAST ELEVEN years or so, an alternative approach to rural development planning has been pursued. Within the limitation of the existing socio-economic structure, this alternative approach begins by trying to reorder the existing distribution of land and other productive assets in rural areas towards a more equitable situation. This approach, therefore, begins with land reforms.

THIS EMPHASIS ON LAND REFORMS, it may be noted, is not any exercise in charity, but is essentially a productive move on the basis of hard evidence of superior production performance on the part of working peasants. In this context. we may mention, with modesty, some of the advances that have been made in recent years to give our State the front position in the country in the sphere of land reforms. Of the total agricultural land distributed through land reforms in India, nearly 20 per cent has been contributed by West Bengal, although in the total agricultural land in our country, the State's share is less than 4 per cent. With the implementation of land reforms, in West Bengal, according to the National Sample Survey data, nearly 60 per cent of the total land is owned by the small and marginal farmers as against the national figure of 28.8 per cent as owned by the small and marginal farmers, as has already been mentioned earlier. In other words, an objective situation has been created in the State where the problem of agricultural planning can be looked at from the standpoint of the poorer working farmers.

There has been, as a result, also a tendency to adopt technology which is overly capital-based with inadequate absorption of labour force in production, causing unemployment and insufficient generation of purchasing power of the common people."

choice of appropriate technology

IN ORDER TO MAKE THE LAND REFORM measures effective, it is essential to support these measures with the provision of non-land inputs, such as irrigation, implements, manures and fertilisers, and infrastructural facilities, particularly credit and marketing. In the provision of all the these non-land inputs, there is a question of choice of appropriate technology involved. Here, in this alternative approach, as a result of land reforms, this choice can now be more meaningfully viewed through the eyes of common working farmers The working farmers are endowed with labour power and there is in rural areas often a relative abundance of local resources. The socially appropriate choice of techology regarding all the non-land inputs in this alternative approach should therefore be one which should be modern and, at the same time, make efficient and improved use of labour and local resources. Such a choice of technology not only provides a better relief to the problem of unemployment, but also creates more purchaing power for the common people.

KEEPING THIS DIRECTION OF APPROPRIATE technology in mind the emphasis in the sphere of irrigation, one of the most important of all the non-land

inputs, has been placed in the State in recent years on extension of minor irrigation facilities. Along with that, emphasis has also been placed on extension of field channels under major irrigation projects. It is primarily on the basis of land reforms and this extension of irrigation facilities, together with the provision of fertilisers and other inputs, that it has been possible to increase the State's agricultural production significantly in recent years. For instance, the total foodgrains production of the State increased from 74.53 lakh tonnes in 1976-77 to 96.26 lakh tonnes in 1986-87, which was not only a record production for the State, but it also included in itself rice production of 84.63 lakh tonnes which was the highest level of rice production among all the States in that year. Even in the year 1987-88, despite severe floods in 12 out of 17 districts, it has been possible to exceed the previous year's production of foodgrains and reach an all-time record of 102 lakh tonnes in the State.

Along with this increase in production, there has also been in the state an increase in recent years in the average wage rate for agricultural workers, the average daily rate, cash and kind together, increasing from about Rs. 5.60 in 1976-77 to more than Rs. 14 in recent years. In some of the districts in South Bengal, the average daily wage rate has even crossed Rs. 20.

growth of cottage industries

IT IS IMPORTANT TO NOTE THAT as a result of this progress of agriculture through emphasis on a technology, which uses labour and local resources and tends to generate some purchasing power for the common people, there has been a related growth of cottage and small-scale industries which are linked with agriculture and which produce mass consumption goods such as handloom products. Over the last ten years, growth of registered small units has been significant in the State—from a figure of less than 1 lakh in 1976-77 to the present figure of about 2.5 lakhs. In recent years on average, about 14 thousand of new functioning small units are being set up per year in West Bengal, with additional generation of employment of about 80 thousand each year. In addition to small scale industrial units there has been a significant growth of handloom industry over the last ten years, where the production has gone up from around 20 crore metres in 1976-77 to more than 40 crore metres in 1987-88. The growth of small scale industries needs to be supported by growth of large industries—an issue to which we are not referring in this article.

WHEN THE PRIORITIES OF PLANNING are thus placed in favour of the common people, particularly with effective impelmentation of land reforms, choice of more employment-generating technology, and attempts at industrial growth through generation of purchasing power among the common people and in terms of a wider base of small producers, an objective condition is created for involvement of the common people in the process of planning. It is with this objective of involvement of the common people in an organised manner in both formulation and implementation of rural development programmes that the Panchayat elections, which had been stalled in this State for about 15 years, were held in 1978 after the Left Front Government came into power. These elections were then held with regularity of five years in 1983 and then again recently in 1988. After the Panchayat elections data were obtained on the class background of the members who got elected to these Panchayats. It has been found that about 85 per cent of them have come from small farmers and below.

increasing responsibilities

IT IS THESE PANCHAYATS, WITH THEIR pro-poor character and with the common rural people behind them, that have been given increasing responsibility in the planning and implementation of the major rural development programmes in our State. To begin with, the panchayats were involved in the land reform measures in detection of benami lands, in their distribution to the poor farmers and in the recording of bargadars. This was followed by the direct involvement of the Panchayats in the planning and implementation of the Food for Work/the National Rural Employment Programme and now also the Rural Landless Employment Guarantee Programme. The responsibility of implementation of the Integrated Rural Development Programme—identification of beneficiaries, selection of schemes and monitoring—has also been given primarily to the Panchayat Samity, which is supported by the block level staff under the guidance of the District Rural Development Agency (DRDA). Integrated functioning of the DRDA and the Zilla Parishad has been ensured by involving the Sabhadipati and the concerned members of the Zilla Parishad as Chairman and members respectively of the DRDA along with the District Magistrate being involved as the Vice-Chairman. In addition to these programmes, the Drought Prone Area Programme, schemes relating to minikit distribution in agriculture, small irrigation, social forestry, rural water supply, rural housing and several important schemes on Scheduled Castes and Tribes and no cottage and small-scale Industries have been brought under the direct responsibility of the Panchayats.

"In general, it has also been noted from our internal surveys that the schemes executed by the Panchayats cost significantly less than technically similar schemes executed through the conventional procedures, primarily because of savings on account of avoidance of contractors and the supervision being voluntarily performed by the Panchayat members."

FOR CARRYING OUT THESE RESPONSIBILITIES, the Panchayats at all the three levels have been provided with staff support, including technical

personnel and this total establishment cost is borne by the State Government. There is also a regular arrangement for auditing of all expenditures incurred by the Panchayats. Further, it is mandatory on the part of each Gram Panchayat to hold regular public meeting to discuss with the general people about the selection of schemes and also present in public the budget for the year.

better coordination in planning

THE PERFORMANCE OF THE PANCHAYATS in all these programmes has been noteworthy In the field of land reforms, performance of the State, already noted, has been made possible in no small measure by the participation of local common people through the Panchayats The same kind of participation has played a significant role behind the success of implementation of the Food for Work/National Rural Employment Programme and the Rural Landless Employment Guarantee Programme in our State. In the Final Report of Evaluation Organisation of the Planning Commission, it has been observed that the involvement of Panchayats has led to a much better coordination in the planning and implementation of the programme in West Bengal. The report has further stated that in West Bengal "the Village Panchayats call the meetings for preparing schemes for the villagers and the priority of works was also decided in these meetings". In general, it has also been noted from our internal surveys that the schemes executed by the Panchayats cost significantly less than technically similar schemes executed through the conventional procedures, primarily because of savings on account of avoidance of contractors and the supervision being voluntarily performed by the Panchayat members. The involvement of the Panchayats in the Integrated Rural Development Programme in a similar manner has ensured people's participation, and, in the process, acted as an insurance against machination of unscrupulous touts and middlemen. In a recent NABARD sample study on the implementation of Integrated Rural Development Programmes in the 15 States of the country, it has been brough out that there was no case of wrong identification of beneficiaries in the districts of West Bengal. It has also been observed by the same study that the "association of banks staff and Gram Panchayats in the identification of poor families, as as has been done in West Bengal, may ensure that the benefits of the programme go to the deserving persons" The sample study also indicated that the percentage of beneficiaries, who crossed the poverty-line, was the highest in West Bengal except Punjab.

WITH THIS CONFIDENT RECORD OF performance of the Panchayats in our State, we had taken four years back a new step towards decentralised and coordinated planning at the district and the block level by involving the common people through the Panchayats at the grassroots. For this purpose, the District Planning Committee and the Block Planning Committee have been constituted in each district and in each block of a district, by bringing together the Panchayat members and other relevant elected representatives and the concerned officials of all the departments at the respective levels, and with the Zilla Parishad Sabhadhipati as the Chairman and the District Magistrate the member-secretary of the District Planning Committee and the Panchayat Samity Sabhapati as the Chairman and the Block Development Officer the member-secretary of the Block Planning Committee

BOTH THE DISTRICT AND THE BLOCK Planning Committees are being supported by additional administrative and technical staff. With general guidance regarding priorities and financial allocation from the state level, Block plans are formulated in the Block Planning Committee by co-ordinating the Panchayat schemes and all the departmental schemes at the block levels and then these Block Plans are integrated into the District Plan with a comprehensive perspective for the district as a whole. It is now anticipated that nearly 50% of the annual plan expenditure in our State will henceforth be decided at the block and at the district level. This may be an important beginning for the entire country in the formulation of plans in a decentralised manner by involving the common people through the democratically elected Panchayats. ■■■

> **"It is with this objective of involvement of the common people in an organised manner in both formulation and implementation of rural development programmes that the Panchayat elections, which had been stalled in this State for about 15 years were held in 1978 after the Left Front Government came into power."**



Education expansion will help strengthen Panchayati Raj

P.V. Narasimha Rao

In a brief, illuminating article that follows, Shri P.V. Narasimha Rao, Minister of External Affairs, has very carefully established a close link between education and rural development. We have a massive man-power in our villages. Due to one factor or other, this human resource remained a victim of ignorance, illiteracy and superstition. To bring them out of this fog of inertia, to mobilise this vast resource, education is the most effective impetus. As the author has rightly put, the history of India shows that knowledge has always been shared. With lines of communication reaching remote areas of our vast land, there is a growing consciousness in our villages today that knowledge is a productive resource which is inevitable for any process of development. He is of the firm view that Panchayati Raj institutions must be strengthened because they alone represent the will and wishes of our people.

THE VILLAGE PANCHAYATS IN INDIA have been the pulse beat of our democracy since the ancient times. These Panchayats were the custodians of India's village corporate life. Nothing was too small or too great in the entire range of human activities to be covered under the umbrella of these instiutions. A Panchayat normally consists of five wise men of the village belonging to different sectors of rural society but with the passage of time the number has not remained sacrosanct. The Panchayats served as the backbone of our democratic institutions around which the entire fabric of social and economic activity of the village rested. From Vedic times to the beginning of the British Rule these Panchayats looked after our villages and their requirements. With the advent of industrialization the village corporate life disintegrated. In the highly centralised British Rule the institution of Panchayats received a set back.

AFTER INDEPENDENCE the National Government undertook a comprehensive development and welfare pro-

gramme through the Five Year Plans in order to solve the basic problems of poverty and developing the creative genius of the village people. The Constitution of India, in its Directive Principles, included the establishment of Panchayati Raj Institutions.

democratic decentralisation

IN JANUARY 1957, the Balwant Rai Mehta Committee was appointed to sustain the utility of local initiative and create institutions for the improvement of social and economic conditions in rural India. The Committee submitted its report to the Union Government on 24th November, 1957. It suggested that decentralisation of responsibility and power to levels below the State was an urgent requirement. Accordingly the Committee recommended "Devolution of powers to a body which will have entire charge of all development work within its jurisdiction — the Government, reserving its functions, guidance, provision and higher planning and wherever necessary provide extra finance". Pandit Jawaharlal Nehru accepted these recommendations and named these institutions as "Panchayat Raj". There are today 2,06,987 Gram Panchayats, 4043 Panchayat Samitis and 340 Zilla Parishads with 73 Municipal Corporations functioning in the country— the largest democray in the world.

THE STATE OF RAJASTHAN was the first to launch the Panchayat Raj on 2nd October, 1959, Andhra Pradesh followed in November, 1959. The Panchayat Raj institutions were launched in Maharashtra on 1st May, 1962. During the last 15 years these institutions have not only maintained the ancient democratic and developmental traditions but have also moved to even higher goals of the welfare of one and all. The dynamics of development through Panchayat Raj Institutions as district government and the principles of democratic decentralisation has come to stay. The system of Panchayat Raj is generally a three-tier structure of the local self-government at the village, block and the district level. The States are, however, free to make the changes in the structure to suit local conditions. All Panchayat Raj bodies are originally linked up. Special representation on these bodies is given to backward classes, women and co-operative societies

rural progress through education

THE NATIONAL POLICY ON EDUCATION, 1980 which has been approved by Parliament has also focussed attention on the role of the, Village Education Committees and the involvement of voluntary agencies including Panchayati Raj Institutions for the fulfilment of the targets of Universalisation of Elementary Education by 1995 and eradication of illiteracy from the land by the same year. Para 10.8 of the document clearly states: "Local communities through appropriate bodies will be assigned a major role in the programmes of school improvement."

PARA 10.9 FURTHER ELABORATES that non-government and voluntary effort including social activist groups will be encouraged subject to proper management and financial assistance provided. At the same time steps will be taken to prevent the establishment of institutions set up to commercialise education." It is important to ensure that those at the top of the educational pyramid are among the best in the world. The cultural well springs of our traditions had taken good care of both ends in the past; the skew having set in with foreign domination and influence, it should now be possible to further intensify the nation-wide effort in human resource develpment, with education playing its multi-faceted role. Decentralisation and creation of the spirit of autonomy for educational institutions is the Key-Note of the management structure of New Education Policy.

sharing of responsibility

IT HAS BEEN PROPOSED in the Programme of Action-1986 that the Village Education Committees will take care of not only the educational development of the village but will also be entrusted with the responsibility of maintenance of school building, checking drop-outs and ensuring that the teachers take the classes and the students attend them. In the coming years the Panchayats will be the fulcrum of human resource development. In a country where financial resources are scarce, human resource development is the only answer. There is growing consciousness in our villages today that knowledge is a productive resource which is central to the process of development. It is time that our villages became recipients of modern knowledge and relevant technology is transferred from Urban to Rural areas in keeping with our democratic traditions. The history of India shows that knowledge has always been shared. Even constitutionally education is a Concurrent Subject. Concurrency implies a meaningful partnership, a happy sharing of

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responsibility. Under this new responsibility it is inevitable that the Panchayat Raj Institutions must be strengthened, because they alone represent the will and the wishes of our people. It is these institutions which had maintained our traditions and value systems. It is only through these institutions that our cultural and constitutional commitments will be realised. It is the Panchayats which will create a climate of hope and development and cast off the climate of frustration and pessimism. As Prime Minister Shri Rajiv Gandhi has pointed out that programmes evolved from above do not work and cannot be effectively implemented. The Eighth Plan, he said, would be evolved from Village Panchayats and not from New Delhi."The future plan will come from the bottom upwards." ▣▣▣



Panchayati Raj—malady and remedy

Dr. Malcolm S. Adiseshiah

An eminent social thinker and an economist of extensive experience, Dr. Adiseshiah has raised some pertinent questions relating to the basics of Panchayati Raj, in the following article. He points out that under the existing constitutional arrangement, the state government is responsible to no authority for what is happening or not happening at the village level. The author suggests that wide-ranging agrarian reforms are required to be introduced in order to make Panchayati Raj as effective instrument for the total uplift of rural masses. Comparing the results of the Panchayati Raj elections held in Karnataka and West Bengal, the author establishes his point that land reform is a pre-requisite for involving the majority of the households in the village in any drive for an all round rural development. Analysing the failure of Panchayati Raj in various states of the country, he comes to the conclusion that the lack of a political will to decentralise power and financial anaemia are the two main reasons. The author, while concluding the article, has quoted at length the vision that Mahatma Gandhi projected of the gram swaraj which was "to be attained by educating the masses to a sense of their capacity to regulate and control authority."

WHY HAS PANCHAYATI RAJ CEASED TO exist over three fourths of the country? They exist n only 5 States—Maharastra, Gujarat, Andhra Pradesh, Karnataka and West Bengal. One simple and straight answer is that the Indian Constitution does not refer to his level of government, except as it were in passing, in Article 40, and makes no obligatory provision for the holding of panchayati raj elections as it does for elections of State Assemblies in Articles 168-172, or Union Parliament in Articles 80 to 83. If Article 172 did not exist, elections to the State Assemblies will also be non-existent: even with that obligatory provision, Article 356 is used to supersede elected legislatures and Article 365 (d) is amended to postpone the holding

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of State elections. It is therefore not surprising that Panchayati Raj elections, which have been made a voluntary decision of the States, have not been held, for some or all the 3 tiers, for 10 years in 17 States and 20 years in 7 States. Just as the Union Government is tempted to, and does to a large extent, centralise as much power as it can for itself *vis a vis* the states,* but is prevented to some extent by the Constitution laying down the areas for which the States are exclusively responsible— List II of the Seventh schedule— so too the State governments not being bound by the Constitution either to hold panchayati raj election or to respect the powers, not as yet earmarked for them, to run the local government and local affairs as it likes through its officials. The State Government is responsible to no authority for what is happening or not happening at the village level. This means that the way out of this first obstacle of the moribund panchayati raj is clear. That is for the Constitution to be amended to (a) earmark the functions and powers of the three-tier panchayati raj institutions (the Balwantrai Mehta, Ashok Mehta Committees have clearly set forth the areas of their functions and responsibilities) and (b) provide for periodic elections, preferably every 5 years, to coincide with the Union and State election, possibly as envisaged in Article 243 (c)-(g).

making panchayati raj real

It is important to realise that to superimpose the two constitutional changes proposed above on the existing socio-economic rural structure will simply transfer

> **"The purpose of Panchayati Raj is to provide the mass of the villagers with livelihood, literacy and health facilities. The RBI all-India debt and investment survey over 3 decades 1961, 1971 and 1981 shows the skewed rural assets distribution, with the bottom 39 per cent of rural households owning 5 per cent of all assets, while the top 5 per cent own 46 per cent "**

power from the Union or States well-to-do elites to the rich rural elites. The purpose of Panchayati Raj is to provide the mass of the villagers with livelihood, literacy and health facilities. The RBI all-india debt and investment survey over 3 decades ending 1961, 1971 and 1981 shows the skewed rural assets distributions, with the bottom 39 per cent of rural households owning 5 per cent of all assets, while the top 5 per cent own 46 per cent. NSS surveys, and the Agricultural Census confirm the increase in marginal land holdings and landless labour households. In this situation to hold panchayati raj elections will be to benefit the well-to-do farmers, as in the case of the Karnataka Zilla Parishads elected chairmen (Adhyakshas) who were 33.3 per cent Lingayats owning 20 to 100 acres of land each, and 22.2 per cent vokkaligas owning 20-40 acres each. This contrasts with West Bengal where land reform was carried out, which meant that 75 per cent of the chairmen and members of the 3-tier structure of 46,000 elected members were small and marginal farmers. Hence a second essential for Panchayati Raj to function so as to benefit the majority of the households in the village who own or operate small and marginal farms and who are landless labourers, is first to implement the agrarian reform legislation (ceilings and tenancies) which are on the books, but which are successfully bypassed and eroded.

base for decentralised planning

One of the problems faced by the country, accounting in a major part for its maldevelopment—massive poverty, increasing unemployment, growing inequality along with the social lacks of illiteracy, ill health, infant mortality, lack of safe drinking water, rural roads and electricity—is the system of planning that we have adopted— the top down model. Way back in 1952 Nehru warned that we had to start with the top down approach in the First Plan, but soon we had to develop a procedure so that "people may feel that the plan is something that has been evolved with their cooperation, and that they are responsible for its success". After two General Elections, he realised that democracy with universal adult franchise does not throw up a pro-poor government. Looking around Parliament, he saw that instead of small farmers and landless labourers who constitute 90 per cent of the rural people being elected through adult suffrage, the elected representatives were well-to-do large and medium farmers. So he turned to the panchayats and wanted them to be drawn into the planning implementation of the Plan-(letter to chief ministers—28 September 1953). If the first 2 desiderate are met—of elected panchayati raj following agrarian reforms— then only can the panchayati raj institutions develop realistic local plans, of which the state and national plans will be the aggregates, and the panchayati raj will be willing and effective executors of the Plans that they have formulated.

the malady and remedy

Panchayati Raj today suffers from two basic maladies. First the lack of a political will on the part of state governments and legislatures to decentralize power in favour of the people and their representative at the local and village level. The second malady is the financial anaemia from which they are made to suffer. Of these two ills, the financial lack is second in importance, for it can be corrected by vesting the panchayati raj with the power to tax, in addition to earmarking their rightful share of state and union funds. The more serious problem is the act of delegation which can only flow from an honest and sincere commitment to the ideology of democratic decentralization—which is the Gandhian ideal of village swaraj.

* For instance in agriculture which is wholly a state subject, the Union Plan share is 39 per cent of total Plan resources in 1987-88: in village and small industries another state subject, the Union share is 46 47 per cent, in rural development 54.02 per cent, in social and women's welfare 79.02, and in family welfare 100 per cent.

If the above preconditions are met, Panchayati Raj will usher in village swaraj, which addresses itself to basic questions, such as the basis of political conflict in structural terms, to which Gandhi addressed himself, rather than to our preoccupations with superficial issues of institutional management, panchayat finances, the conflict between the administrators and politicians, supervision and coordination in panchayati working. Panchyati raj requires allocation of areas of authority as well as earmarking financial resources. But these are subsidiaries and consequential to the basic issue. And so I end with Gandhiji's vision of village swaraj: "It is the masses who have to attain swaraj. It is neither the sole concern of the moneyed man nor that of the educated classes. Both must subserve their interest in any scheme of swaraj: I hope to demonstrate that real swaraj will come not by the acquisition by a few but by the acquisition of the capacity by all to resist authority when abused. In other words swaraj is to be attained by educating the masses to a sense of their capacity to regulate and control authority" (Young India 29.1.25). "My idea of village swaraj is that it is a complete republic, independent of its neighbours for its own vital wants, and yet interdependent for many others in which dependence is necessary. Thus every village's first concern will be to grow its own food crops and cotton for its cloth. It should have a reserve for its cattle recreation and playground for adults and children. Then if there is more land available, it will grow useful crops, excluding ganja, tobacco and opium. The village will maintain a village theatre, school and public hall. This can be done through controlled wells or tanks. Education will be compulsory upto the final basic course. As far as possible in every activity, there will be no castes such as we have today with their graded untouchability. Non-violence with its technique, satyagraha and non-cooperation will be sanction of the village community. There will be a compulsory service of village guards who will be selected by rotation from the register maintained by the village. Government of the village will be conducted by the Panchayat of five persons, annually elected by the adult villagers, male and female possessing prescribed qualifications. These will have all the authority and jurisdiction required". (Harijan 26.7.42) Will Panchayati Raj be permitted by us to return to these basics? ■■■

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(Contd from page 22)

"Indian independence must begin at the bottom. Thus, every village will be republic or Panchayat having full powers. It follows, therefore, that every village has to be self-sustained and capable of managing its affairs. ..."

"In this structure composed of innumerable villages, there will be ever-widening, never ascending circles. Life will not be a pyramid with the apex sustained by the bottom. But it will be an oceanic circle. whose centre will be the individual always ready to perish for the village, the latter ready to perish for the circle of villages, till at last the whole becomes one life composed of individuals, never aggressive in their arrogance but ever humble, sharing the majesty of the oceanic circle of which they are integral units."

— Gandhiji-Harijan 28-7-46;

"In the true democracy of India. the unit was the village. Even if one village wanted Pachayat Raj, which was called ropublic in English, no one could stop it. True democracy could not be worked by twenty men sitting at the Centre. It had to be worked from below by the people of every village."

—Gandhiji at the Prayer meeting, New Delhi 6-1-1948:

"Small is beautiful" is the Gandhian model and is a matchless gospel for development of Third World countries. This Gandhian concept fascinated Schumacher so much that he once called Gandhi the greatest economist of the century. The inevitable conclusion from the irresistible logic of decentralised developmental technology is that the vibrant wheels of village Panjayat are the proper mechanisms for India's rural development. All else is phoney verbiage. Our tryst with destiny to wipe every tear from every eye can never be redeemed except through community development. Community development is but verbal balderdash if Panjayati Raj is not activated and made operational.

SUCH A CONSTITUTIONAL VISION of India in economic locomotion must inspire Panjayati Raj, not by the grace of the State Legislature but by the command of the Constitution itself. What is now relegated to Art. 40 as a pious wish must become a necessary and integral part of the Constitution in action. ■



Panchayati Raj—some recollections

Govind Narain

Here is an article from one, who has held top administrative posts during his long executive career, and was deeply involved in the implementation of Panchayati Raj in its initial years. Shri Govind Narain, retired ICS, gives us a detailed account of the introduction of the concept of the Panchayati Raj in rural India after Independence, its growth in phases and the gradual decline. He says that after the passing away of Jawahar Lal Nehru, who was the fountain head of strength for this rural development system, the critics got the awaited opportunity to mount an attack on it. Having first-hand experience of working among villagers for their uplift, the author has a deep insight into their psyche. His assessment of the rural masses is that among them there are natural leaders who command instinctive affection and respect of their folk. He concludes saying that as people are the real masters, they should have an effective voice through clean and healthy institutional forums.

THE RECENT EMPHASIS BY THE Prime Minister on the institution of Panchayati Raj brings to my mind memories of the last 48 years. In 1940 I was appointed District Rural Development Officer besides other assignments. During those days of the British Raj, rural development was only a minor sideline of the work but it was thrilling to be in touch intimately with the villagers and talking to them informally about their problems. Agriculture, naturally, was the broad base but that was not all— I faced the naked reality of misery, poverty and utter neglect of those who feed the whole nation—rural indebtedness, fragmentation of holdings, bonded labour, landless labour, complexities and insecurities of the tenure of the tillers of the soil were all serious hurdles in any effort to increase production. There was hardly any organised system for the supply of the essential inputs or of scientific knowhow. The atrocities and coercive money-grabbing tactics of the Zamindars and their henchmen, the cruelties of the high castes towards their low caste bretheren and the tacit support of the administration to the haves against the havenots, were the prevailing, recognised ingredients of the Village situation. The villagers distrusted the official agencies like the Mukhiya, the Chowkidar, the Patwari and the village constable and not without good reasons. The higher echelons of visiting minions of official heirarchies drew only superficial cognizance with intense indifference, scepticism and even fear because most of them were only agents of extortion than of succour. The most distressing feature was that the bulk of the sufferers were engulfed by a throttling feeling of helplessness.

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Any person of sensitivity would want to do somethings to help and to carry faith but the problem was how, in the face of the vastness of a baffling situation. what seemed to be needed was a complete overhaul of the political, economic and cultural environment. The funds with the Rural Development Department were very meagre and staff minimal. One could only meet the villagers and talk to them about compost making, sanitation and hygiene, cooperatives and collective defence against organised crime. The Village Panchayats could function only under the tutelage of the mighty vested interests. Some Nyaya Panchayats dispensed with elementary justice in petty disputes. What was heartening was the warm and cordial response of large numbers to any sincere and selfless approach which could create confidence among them. Within the limitations of resources and higher policy even small initiatives brought a visible ray of hope.

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primary units of power

Mahatma Gandhi wanted to evolve an economy which would be self-generating and self-contained. He was interested in a system wherein the villages would possess the means of production and cities would be the centres of consumption. He reposed full faith in the Panchayati Raj structure in which the village, through their elected Panchayats, will be masters of taking their own decisions. Our first Prime Minister, Pandit Jawaharlal Nehru, was a true democrat and he wanted the Panchayats to be strong and healthy as the primary units of our democratic polity.

With the stimulus of the National Government, various experiments were conducted in Bakshi Ka Talav in U.P. and in Nilokheri and also in some villages on the various ingredients and forms of village development. Foreign agencies like the Ford Foundation were readily willing to assist in this task. After much mature thinking and deliberations an ouline of the famous Community Development Programme was drawn up. In the light of actual experience, changes and modifications continued to be introduced and then emerged a well integrated programme of action for our villages with Village Panchayat and Block Samitis and a schematic budget. According to the wishes of Pt. Jawaharlal Nehru, and the guidance of Shri S.K. Dey, the Administrator and later the Minister-in-Charge of this Programme, we took inspiration and advice from Shri Jai Prakash Narain also. J.P. dreamt of an idealistic self-governing Village Society, without interference from political parties, with no coercive processes but all decision-making by consensus, mutual understanding and goodwill. He warned that Panchayati Raj will work only if the leadership at the village level works it in the right spririt.

I was appointed Development Commissioner of U.P. in 1955. The Community Development Programme was operating in some selected villages and was steadilv gaining momentum. The fountainhead of strength, support and inspiration was Pt. Jawaharlal Nehru, who used to attend all the Development Commissioners Conferences and participate actively in the deliberations. This added great impetus and prestige to this movement. His lieutenant, Shri S.K. Dey, used his great gifts of intellect, engineering, untiring energy, forceful logic and persuation to enthuse all the workers, strengthen the inputs of the programme in the light to experience and establish a personal rapport from the Chief Ministers down to the block level.

requirements of development

The basic structure of this programme was sound. While agriculture and other economic activities were the foundations, the diversity of the multifaceted personality of the villager was not lost sight of. His motivation was of the essence. Motivation meant consultation, discussion and involvement without any show of authority, compulsion or imposition. With the highest emphasis on better agriculture other needs, requirements and wishes of the village could not be ignored altogether. Even agriculture required cheap and timely credit outside the clutches of the money-lender and Cooperative Credit Societies had to be strengthened. Timely inputs of good seed, manure, pesticides were needed and cooperative stores could handle these. Irrigation had to be an essential ingredient of agriculture. Harvested crops needed proper storage to avoid sharp fall in prices due to glut in the mandis and cooperative stores had to be organised. Besides agriculture, other easy sources of income could be the development of fisheries and poultry. Even the milch and draught animals required proper looking after and their breed had to be upgraded. Veterinary services were essential. Approach roads to the main roads to the markets and culverts over nullahs were necessary. Dirty, filthy water-logged lanes and streets of the village required brickling. Sanitary latrines and smokeless chulhas were needs of the households. Children's education and village health-care had to be provided within easy reach. Drinking water has been a perpetual problem in many Villages. And what about

"The average level of Governmental heirarchies could not shoulder the responsibilities of such a programme with their authoritarian attitudes and belief in orders and compliances. The programme needed a very carefully selected team of devoted and dedicated workers with genuine feel and love for the village situations. In a deliberate and calculated manner, therefore, the programme was not extended to very large areas."

the community life of the village? A common centre, a Panchayatghar was a need. The whole village activity had to revolve round a strong and healthy Panchayat System. Villagers were willing to participate, to give their time and labour but they needed a direction, a coordinated approach and financial assistance. These were provided by the Community Development Programme. The focal points of this programme were the Gram Panchayats at the village level and the Block Samitis at the block level. The real leadership at the grassroots levels was beginning to assert itself and gather strength, aided and assisted by the extension workers with their new approach and new philosophy of work.

"A time came when phoney leaders imposed by the political parties found in this programme a danger to their authority and influence and the word went round that some elections were lost by the ruling political party in areas in which the programme was strong."

Here we come to the crucial point. The average level of governmental heirarchies could not shoulder the responsibilities of such a programme with their authoritarian attitudes and belief in orders and compliances. The programme needed a very carefully selected team of devoted and dedicated workers with genuine feel and love for the village situations. In a deliberate and calculated manner, therefore, the programme was not extended to very large areas. Emphasis was on proper selection of the right type of workers from the various departments of Government and from open sources and putting them through an intensive, well organised training. The Training Centres themselves needed a highly motivated and properly oriented staff. To create a two-way channel of communication and earn the love and confidence of the village people were the essential requirements for success.

teaching the masters

The social education component of the programme rested on the foundation of teaching the masters about their rights and duties in their families, in their village communities and in the country. There were natural leaders in many villages who commanded the instinctive affection and respect of their fellow villagers. They did not believe in opportunist injections of easy money for their personal benefit but in enthusing the whole community towards greater prosperity and larger happiness. They had no ambition to fight for any positions of authority. The authority was inherent in their personality of selfless and dedicated service to the people and did not depend on any gimmicks.

The movement gained strength and momentum and was slowly and steadily extended to larger areas depending on the availability of properly selected and trained manpower. The success could be judged by the tremendous amount of *shramdan* and the larger involvement of the people in works for their own good, including adoption of superior agricultural practices for economic betterment. A time came when phoney leaders imposed by the political parties found in this programme a danger to their authority and influence and the word went round that some elections were lost by the ruling political party in areas in which the programme was strong.

In the higher political circles, the catch phrase 'Democratic Decentralisation' became very popular. Pandit Jawaharlal Nehru himself believed in real power being transferred right upto the village level. Balwant Rai Mehta Committee was appointed and very sound recommendations were made for strengthening the Panchayati Raj System. Although the report was accepted by the Centre and the States, the political will o implement these recommendations was lacking because of the misapprehensions that competing centres of influence and power will be created.

chinks in the armour

Let it not be presumed that all was perfect in the programme in all the areas. There were failures and shortcomings but there was also an effort to employ correctives in the light of experience. However, pressures against the programme continued to mount up in the political circles. In the misguided enthusiasm to see quick results everywhere, the programme was ordered to be extended too fast to cover the whole country. This resulted in considerable dilution in the quality of the staff—rapid selections of very large numbers lowered the standards. Training could not be provided so quickly. This became the biggest weakness in the future of the programme. With Jawaharlal Nehru's demise, the fountainhead of strength was gone and the critics of the programme got the awaited opportunity of mounting a big tirade against the programme. The cheapest stunt was to say that there was inadequate emphasis on agriculture, This was grossly untrue. Objective analysis will find out that the grand success of the Green Revolution could not have been achieved unless the base—the cultivators—had been made receptive and responsive to new methods and techniques through the Community Development Programme. I am not at all undervaluing the great contribution of the scientists and the agricultural research workers, but without the willing men to adopt the new techniques and work them, no results could follow. Be that as it may, the agriculture enthusiasts succeeded in reducing the Community Development Programme to the level of an appendage and a tool of the agriculture department. The fanatical enthusiasm went to the extent of changing the nomenclatures also. The Development Commissioners became the Agriculture Production Commissioners. The State

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Governments found in this demoralized and debunked Community Development Organisation a convenient machinery for enforcing their will including raising of funds and helping in the elections. The moral fibre of the workers was ruined and they lost that prestige and effectiveness. This was a great setback for the Panchayati Raj system as well as the growth of leadership and community feeling at the village level.

The Panchayati Raj institutions became almost dormant. Without assured financial resources or any worthwhile common programme to pursue, all the initiative and enthusiasm almost died down. Only lip service continued to be paid to democratic decentralisation and the role of Village Panchayats.

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reserved financial resources

With the coming in of the Janata Government at the Centre in 1977 a fresh effort was made to put some vigour and vitality in the Panchayati Raj system. Ashok Mehta Committee was set up of which S.K. Dey was also a member. They made a detailed study of the situation and consulted a large number of experts and produced a very good report making certain revolutionary recommendations including statutory provision of assured financial resources to these Panchayati Raj institutions at the village block and district levels along with control of the governmental machinery to implement the programmes. The Janata Government at the Centre was short-lived and with its departure lessened the zeal for the implementation of these recommendations. However, some State Governments have adopted some of the recommendations to suit their situations and the schemes of States like West Bengal, Andhra Pradesh and Gujarat are being watched with interest. A bold scheme has been launched in Karnataka following the pattern recommended by the Ashok Mehta Committee. They enacted the Karnataka Zilla Parishads, Taluk Panchayat Samitis, Mandal Panchayats and Nyaya Panchayats Act, 1983, which received the President's assent on July 10, 1985. After elections, framing of rules and making various administrative arrangements, these units at various levels became operational in April 1987. The Gram Sabha discusses and reviews all development programmes of the village, selects beneficiaries for all beneficiary-oriented programmes transferred to the Panchayati Raj system, plans for local improvement, including minimum needs, welfare and production-oriented programmes, also including the cropping pattern for the season. The Mandal Panchayat is entrusted with all civic functions and powers and responsibility for developmental and welfare programmes. The Zilla Parishad has the powers and responsibilities of an Apex Body at the District level for all functions of the District's development and welfare. Suitable staff at these various levels has been placed in the control of these bodies with clear demarcation of jurisdiction and functions and a system of coordination.

earmarking sectoral allocation

The spectacular part of the scheme is the devolution of resources. The State Government has made a sizeable transfer of financial resources from its budget to the District sector. This constitutes for the present the bulk of the Zilla Parishad and Mandal Samiti resources. The sectoral allocation for the District Sector are distinctly earmarked in the State budget. The District-wise allocation thereof is provided in a link document which forms an integral part of the Budget documents. The Zilla Parishad has freedom within the national discipline of "Earmarked Funds' and "Minimum Needs Programme". to make inter-sectoral reallocation of the funds so transferred to it. The Plan provision includes a united per capita grant of Rs. 10 per year from the State budget to be shared by the Zilla Parishads and Mandals in the ratio of 1:3 This is given by the State Government over and above the transferred schematic provisions. This is intended to enable the institutions to have funds at their disposal to take up activities of their choice.

This Karnataka Scheme has seen only about a year of its functioning. Undoubtedly there will be snags and difficulties which will require to be tackled. Nevertheless there is no hesitation in saying that this is one sincere and serious effort to implement what we have been talking about so much, namely, democratic decentralisation and transferring administrative authority in development and welfare measures to the people upto the village level. This experiment is certainly being watched with great interest and enthusiasm.

"The present day crisis in the country is largely that of credibility. There are numerous statements from seats of power, sometimes even contradictory, but there is big gap between the declarations and promises and the actual action. There is too much mixing up of political functions and Governmental functions. Political leaders in authority are nominees of the top and thus beholden to the top and the answerability to the people is weakened considerably."

The present day crisis in the country is largely that of credibility. There are numerous statements from seats of power—sometimes even contradictory, but there is big gap between the declarations and promises and the actual action. There is too much mixing up of political functions and governmental functions. Political leaders in authority are nominees of the top and thus beholden to the top and the answerability to the people is weakened considerably. This is a gross distortion of the concept of democracy. People, the masters, must have their effective voice through clean and healthy institutional forums. Let us build up a new structure from the village upwards through the Panchayati Raj Institutions. ■■■



Panchayati Raj—perspective and prospect

Benoy Krishna Chowdhury

In West Bengal three Panchayat elections have already been held, and the results showed that people's participation has been of much help in implementation of various development schemes. Shri Chowdhury, who is Ministrer of land reforms and panchayats in the Government of West Bengal, gives authentic details of the three-tier local self-government system introduced in that State and the harvest of benefits that was reaped from it. He has the belief that people are the real builders of the nation and the ultimate sovereign power rests with them. The author holds the view that if MPs and MLAs can be elected directly, there is no reason why an institution, supposed to look after the day-to-day needs of the people, should not be directly elected. He points out that rural masses should not be treated as objects of compassion nor the administration should consider itself superior and above the people. The West Bengal experiment, he says, has enabled a large number of people belonging to weaker sections of the community to shape their own future with greater confidence.

WE SHOULD BEAR IN OUR MIND, THAT our country had to pass through a prolonged period of dependence under the foreign British rule. Hence, the character of the administration, that gradually developed over the years, was decidedly of colonial nature. The people were exploited and oppressed and wide gap developed between the ruler and the ruled. I this background India got independence throug transfer of power by the British ruler.

Unfortunately, after independence no seriou throught was ever given to restructure the administra tive set-up, to close the gap that developed over th

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years between the people and the administration of the country and to create a feeling of involvement with the governmental process and with the developmental activities of the country. Even the framers of the constitution did not give much attention to it. During the period, when the constitution was being discussed in the Constitutent Assembly, Gandhiji enquired about what provision had been made with regard to 'Panchayati Raj'. Apart from expressing some pious wish in the Article 40 of the Constitution, hardly anything is there. As a matter of fact instead of going in for establishing 'Panchayati Raj' the Government of India went in for experimenting with "Community Development Project" prompted by American advisers. The imperialist countries were also then in need to develop marketing facilities in the under-developed countries of Asia, Africa and Latin America to sustain their economy in the post-war period.

This experiment with the Community Development Project continued for quite a long period. But that experiment failed to bring in desired result. Then the whole matter was reviewed by "Balwantrai Mehta Committee" and later on by "Asoke Mehta Committee" and finally decision was taken to go in for establishing 'Panchayati Raj'.

But even then the steps taken for implementing 'Panchayati Raj' were very halting in nature excepting in a few States, Whay this dragging of feet? The class character of the administration is the determining factor of the political will for implementing 'Panchayati Raj.' Unless the administration can identify itself fully with the interest of the weaker sections of the people, it will not be able to make any headway in the matter. Due to historical reason, the economic stranglehold of the big land owning section and their political domination in all spheres of life in the countryside is very much prevalent. Unless we can curb this economic authority and political dominance to a sufficient degree, through proper land reform measures, the weaker sections of the people, who constitute the overwhelming majority of the population, will not be able to assert their right in the countryside. So, carrying out of adequate land reform meausres is the precondition for establishing 'Panchayati Raj'.

But in most of the States hardly any effort had been made in this regard excepting in West Bengal, Kerala and Tripura. In West Bengal, Kerala and Tripura, households owning more than 10 acres of land constitute only less than two percent and only 16 to 20 percent of arable land is under their possession. While in other States they constitute near about twenty percent and land under their possession is over fifty percent. Panchayats in these States are still under the grip of the village vested interest.

what we really want to achieve

The concept of Panchayati Raj is not to revive an age old institution. Old Panchayats were constituted with heads of groups of people living in the villages. The present day conception of democratic election was not there. Generally heads of the groups were selected by prevalent tradition of the area concerned and in most cases the posts were hereditary.

The main objective of introducing Panchayat system is to extend democracy upto the grassroots level and to ensure involvement of the people in all governmental process and development activities. It is now accepted by all reasonable people that no country can make progress in nation-building work, unless people at large come forward with due enthusiasm to actively participate in developmental activities. Union and State Governments are run through the elected peoples' representatives. There is hardly any scope for people's participation at that level. But local governments such as Panchayats and Municipalities, which cater for day to day needs of the people, can provide for people's participation and initiative. Hence we have to make a break with the British concept of local self Government, which was visualised not to confer real power to the people but to hoodwink the people with a sham show. People's fundamental right to participate in the governmental process is to be recognised without any reservation. Sovereignty lies with the people. Union and State Governments derive their authority from the people through the votes of the people. All funds that the Union Government or the State Governments spend comes from the people, through direct and indirect taxes. So it is in the fitness of things that the people should exercise their right to oversee how the Governments are being run, being associated in the lower levels, where everything is being implemented. The people should not be treated as an object of compassion and the administration should not arrogate to themselves a superior position above the people, to dole out relief to them and thereby to oblige them with the expectation of compliance to their dictates as indebted persons. Nothing can be more derogatory to the self respect of the people. They are the real builders of the nation. Ultimate sovereign power lies in their hand. They make and unmake all governments. So people should be treated with due respect.

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West Bengal experience

The Left Front Government in West Bengal, with this conception as enunciated above, re-introduced Panchayat Syatem within one year of its formation, with some modification of the Panchayat Act. In West Bengal, the Panchayat is a three-tier system—the lowest level is Gram Panchayat consisting of 10 to 20 villages, with an average population of 15 to 20 throusand people. If the lowest unit is very small, say 1 to 2 thousand in poulations, that will neither be viable nor effective.

But the Gram Panchayat is divided into several constituencies, according to the population so that each village will be properly represented in the Gram Panchayat. The next tier is Panchayat Samity (Co-terminus with Block) with average population of near about a lakh. The third tier is the Zilla Parishad in each district. All these three tiers are elected simultaneously through adult franchise. In several States only the lowest tier is elected directly and the higher tiers are elected indirectly. This can't serve the real purpose. If

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M.Ps and M.L.A's can be elected directly, there can be no reason why an institution which is supposed to cater for the day to day needs of the people, should not be directly elected by the adult franchise ? In West Bengal already three elections had been held—First in 1978 June, Second in 1983 May and lastly in February, 1988. In the meanwhile, the Panchayat Act had been further amended to make it more accountable to the people. Now it has been made statutorily binding on the part of the Gram Panchayat, to convene a general meeting of the electorate within each six month period and to place all matters concerning the Panchayat for their scrutiny and approval. Apart from this all funds-money and material-received by the Panchayat and the list of the beneficiaries are to be notified on a Public Notice Board and to be kept there for 15 days for public scrutiny The fund of the Gram Panchayat is to be kept in the Bank in the name of Prodhan. Upaprodhan (generally he belongs to some other political party) and a third member selected by the Committee. The fund cannot be withdrown without the signature of at least two persons. Previously, fund was kept in the name of Prodhan of Gram Panchayat. Prodhan of the Gram Panchayat can't function arbitrarily—enough checks have been provided in the Act and the rules. In the functioning of the Panchayats in West Bengal our main stress is on the grassroots level. Gram Panchayat schemes which involve only one Gram Panchayat, are entirely done by the Gram Panchayat, Panchayat Samities execute schemes involving more than one Gram Panchayats Schemes involving more than one Panchayat Samity and of district importance are executed by the Zilla Parishad. As our concept is to develop three-tier Panchayat System as a full fledged local government, we are conferring more and more power to the Panchayat. As a matter of fact the three-tier Panchayat systems are being entrusted to implement all development schemes in their respective areas. They are also being involved in planning process. From the first year of the Seventh Plan, District and Block-level Planning Co-ordination Committees had been formed. Now, State Planning is being finalised, after processing through the Block level and District level Planning Committees. Planning from below is not just an empty slogan now. I don't claim that we have been able to reach a stage of perfect functioning. I realise how difficult task it is. But with all modesty, I can claim we are sincerely endeavouring for improving the functioning of the Panchayat system. Permanent assets built up during the last 11 years are quite impressive. We are trying to eliminate contractors as far as possible in executing various schemes by the Panchayat system. Actual beneficiaries are being involved in executing the schemes with the necessary technical assistance of the departmental engineers. By adopting this means, the quality of the work done has improved and expenses reduced by fifty percent. During the last 10 years man-days created exceeded 30 crores. This has increased the bargaining power of the agricultural labour. On an average wages increased from Rs. 6/- to Rs. 15/- in the last 10 years. Several thousand kilometres of village roads had been constructed and irrigation potentialities extended. Food production increased from 75 lakh tons in 1976 to 103 lakh tons in 1987-88. Potatos production increased from 16 lakh tons to 32 lakh tons and jute production from 30 lakh bales to 45 lakh bales Handloom production has increased to a great extent.

power structure in the country-side

It is found in a survey made by some professors of the Calcutta University that out of 56 thousand elected members in three tiers (First election) nearly 85% have either no land or have up to 5 acres of land. In States excepting West Bengal, Kerala and Tripura the picture is still opposite. There the village vested interests are still ruling the roost.

"As our concept is to develop the three-tier Panchayat System as a full fledged local Government, we are conferring more and more power to the Panchayat. As a matter of fact the three-tier Panchayat systems are being entrusted to implement all development schemes in their respective areas.

Prof. G.K. Lieten of the University of Amsterdam in a recent survey in Mohemmed Bazar Block in Birbhum district, showed that out of 390 elected members—the number of Agricultural labour-37, Share croppers 21, Small peasants (upto 3 acres) 84, mixed character of the three groups-31 in all 173, belong to the weaker section and the number of the middle and big peasants is 114 of which 80% belong to the middle category. So shifting in the co-relation of force is very clear

The distinctive feature of the Block is its high percentage of scheduled tribe (20%) scheduled caste (27%) Muslim (22%). Nearly 90% people depend on agriculture as their main source of living. A new awakening can be noticed amongst the weaker sections. Landlord class can no longer dare to oppress them. They are full of self-confidence. ■■■



District Planning, New Technology & Panchayati Raj

Dr. Yoginder K. Alagh

We have made a commendable headway in technological development which is now being put to a much wider use for agricultural growth and for various agro-basec industries. Dr. Alagh, Member Planning Commission, a noted economist, and an established expert on agriculture, discusses in detail the different requirements, including water delivery systems, pricing strategies, subsidies and supply of inputs, for such a lage country as India, in the context of the 7th Plan. He holds the view that a streamlined research system would go a long way in releasing the tremendous potential energy available in our agricultural research establishments for resolving the nation's rural development problems. He advises that alongwith the improved delivery of land augmenting resources like water, seeds and fertilizers, thought should also be given to land reforms. His argument is that redistribution of land to those who till it, and security of tenure are important preconditions to improving the productivity of land and employment in agriculture. This, in his view, is both an organisational and political challenge. He cautions that the problem of rural poverty and unemployment, massive and complex as it is, can not be solved by one single strategy. He suggests that a comprehensive development strategy ought to be designed which can generate stronger trickle-down effects.

TECHNOLOGICAL SUPPORT FOR RURAL development requires first, technology backup to a ·ocess of widespread agricultural growth, ·ganisation of delivery systems for different inputs ong modern lines and efficient procurement and rocessing of agricultural sector in rural areas. This will have to be organised in the context of spreading agricultural and rural growth and employment in the diverse conditions of the different agroclimatic regions of India and for supporting the small peasant and producer base of the agrarian economy. No single approach will work. Regions like the Punjab and

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Haryana will now have to plan for some of the most technologically progressive agricultural systems on a global plane to get the maximum out of water use efficiency, newer high yielders and a diversified agriculture. On the other hand at the other end, the tribal agricultures of the Indian economy will probably need approaches of the "natural farming" kind experimented with by Fukioke. It may be recalled that if we start in eastern Bengal, say in the District where Tagore sang the immortal music and move through South Bihar, Western Orissa and the Chattisgarh region, into the tribal districts of Western Maharashtra, (while the geographer calls this the "resource region"), paddy yield here on an average is less than one tonne/hectare and if we can even raise it to two tonnes, we would revolutionise the Indian economy. Similarly, while in some areas the need will be to build up basic communication, marketing and delivery system infrastructure, in others the quest for efficiency through improvements in available facilities and better use of them will have to be relentlessly followed.

Land augmentation and land development strategies will need to be closely looked at in the Seventh Plan and the planning methodologies discussed earlier scrutinised in this connection. Questions of more effective use of water are extremely important and lead to interesting planning choices. It is important to emphasise that the choice available in terms of potential investment decisions to control and conserve water application is extermely large. The following are illustrative of some of the major choices:

(a) Imporved regulation of main canal and branches to reduce operation losses. Complete automated operation being one extreme;
(b) Lining of distribution systems at the tail-end upto different levels, i.e. lining of branches, lining upto 100 cusecs or lining upto 8 hec. level;
(c) Improved operation techniques of the total system including better hydrological studies and careful design of storages at different levels of the conveyance system and conjunctive use with ground water. In addition to reducing losses, this would also introduce considerable flexibility in irrigation planning, which may become important particularly in large irrigation commands where the cropping conditions are of diverse type and cropstress requirements differ. Such modernisation scheme will be expensive and will need to be selectively pursued and we need to work out principles to evaluate such choices in alternate agro-economic regimes.

irrigation advancement programme

There is in the last couple of years very high operational stress on water delivery systems to the farmers. An irrigation advancement plan for completion of ongoing projects was implemented in the drought last year, after the finalistation of the Annual Plan. During the current year, over 30 projects have been taken up for an irrigation advancement programme. These have been fully funded by the Government of India. The State Governments have given an identification report for each project in which the distribution system network to be completed to *deliver water to the field in one of the crop seasons* in the balance period of the Seventh Plan is indicated. The plan provides for land levelling, distribution system layout planning construction of missing control structures and, if necessary, an operational plan for consultancy services. The Central Water Commission is monitoring each project and there is now definitely an increased awareness of the need to implement schemes which provide for more effective water delivery at the field level. Similar techniques have been applied to 77 command area development projects for which additional funds have been provided in the Special Action Plan. It is hoped that this feature of irrigation planning, namely, a relationship between targeted expenditures and benefits not in terms of "irrigation potential", but in terms of number of waterings to the field in a crop

"If various leakages are to be avoided, it is necessary to revive and revitalise the Panchayati Raj institutions (local self-Government) as a means of enlisting requisite public cooperation and support for programmes of grassroots development."

season, will increasingly become a normal feature of Indian irrigation planning.

Delivery of ground water to the Indian farmer is another important area of priority. By now the hydrogeological survey of ground water potential in the country is nearing completion. Accelerated programmes of tubewell construction and extraction have been identified in selected districts in the country and funds provided in the Special Action Plan. The next round of problems have now to be anticipated. The Central Ground Water Board and the National Institute of Hydrology are conducting six studies of 6 prototype aquifers for safe and efficient ground water extraction policies taking into account the land and water balances and the quality characteristics of ground water. More generally, it needs to be appreciated that a number of studies are now showing the working of ground water markets in the country. The farmer has shown that he is willing to pay for reliable supplies of water and ground water development policies which take into account the existing markets for such water and increase the supplies of water, ensuring its availability at reasonable prices to the farmer, should be a major objective of policies. In those areas where markets

have not developed, the State may have to play a stronger promotional role, particularly through cooperative agencies, but in other areas it should strongly support and provide initiative in making available this scarce resource in a larger measure. Policies which provide finance on a larger scale, resource development information and specialised advice to field level agencies, need to be devised and encouraged. The prices of pumping equipment vary in the different parts of the country and effort is required through standardisation and research in upgrading the energy efficiency of available pumpsets. Some experience has been gained in the Centally sponsored projects on energy efficiency improvements in irrigation pumpsets, but substantial progress remains to be made. Product development centres which encourage more widespread development of energy efficiency pumping equipment, would be a step in the right direction since available studies show that the farmer gets better services in those areas where there is improved supply of agro-mechanical equipment and artisan skills and experience exists for better maintenance.

"As agricultural productivity increases and farmers are assured of remunerative price, the incomes accruing to rural agricultural families is bound to increase and consequently generate greater demand in the secondary and tertiary sectors."

Development of ground water and watershed development are very important priorities for the national economy. Watershed development in particular is a concept on which emphasis has been laid recently. A number of experiments are presently underway. There are the Centrally Sponsored Schemes. In a few States, externally aided watershed projects are in operation including World Bank, European Economic Community (EEC) financed and bilaterally-financed projects. Indian Council for Agricultural Research (ICAR) is also emphasising agricultural development on selected watersheds. Finally, some very exciting work is being done by NGOs like the Society for the Promotion of Wasteland Development and other groups. An interesting feature of the work of some of the voluntary groups is that the cost estimates of features like contour bunding, check dams, land levelling and digging of percolation tanks and soil conservation work is lower than that in official projects. Also voluntary agencies have interesting proposals of integrating rural development schemes like NREP RLEGP and IRDP with watershed development schemes. Finally, groups like the SPWD and the Pani Panchayat of Vilasrao Salunkhe, lay considerable emphasis on contribution from the farmers and beneficiaries and this is of very high importance.

Detailed studies are now showing the importance of a serious attack on land use planning problems. We should now quickly take stock of the existing experiments underway and design the more ambitious schemes we have in mind for the Seventh and Eighth Plans. The technical issues in soil conservation, land levelling, micro water harvesting issues iun soilk conservation, land leveling, micro water harvesting techniques and approperiate organisc cover for degraded land which is rehabilitated in terms of nutrient replenishment, proper crop cycles or fodder/forestry cover, are by now well known. The central question is to deliver these technologies to the field. A very modest beginning has been made in the Seventh Plan but these need to be very substantially accelerated. Also such programmes are at present incorporated in a number of different schemes, like the National Watershed Development Project, the Soil and Catchment Area Development Project in irrigation projects, soil conservation schemes in the State Plans, National Wasteland Development Project, etc. Many of these schemes overlap and it is important that they are integrated into a single scheme with a major focus on delivery of end results, i.e., improved land management and land development with the participation of the local community.

delivery system reform

The Task Force on the Special Foodgrains Production Programme recommended pricing strategies to meet the objective of cheaper inputs to farmers, rather than direct subsidies. In inputs like pesticides and seeds, subsidies can become a method of supporting inefficient production units (high cost technical grade manufacturers or formulators) or high cost distributors in cooperative, State or private sectors and the benefit may not go to the farmers. Thus subsidies can support high cost pesticide supply or seed prices, say higher than Rs. 450 per quintal. With a price rationalisation scheme, the farmer gets the benefit straight away. Thus the agricultural sector now needs to get the same kind of policy attention that the industrial sector was getting in the early years of the Seventh Plan in terms of policy and delivery system reform. In delivery systems, already policies have been developed for sectors like seeds of selective support and technological upgradation. The new seed policy has been generally welcomed, but there has been some ill-informed comment. First, the policy does not allow for import of seed for self-pollinated crops like wheat and paddy where our own strengths are great. Second, in crops like hybrid millets and oilseeds, the best available germplasm can be imported for development by Indian seed producers, whether in the public, the para statal or the private sector. Only in vegetables and flowers, where our own strengths are limited is relatively open import allowed, subject to very strict quarantine laws. Once import is

allowed, tariffs have been rationalised to benefit the farmer through cheaper prices. He will also benefit through competition of alternative delivery systems. Finally, the ICAR and its agencies will experiment, with all seeds grown and the media will be used to inform the farmer of the quality characteristics of the seed. Such policies which encourage upgradation, based on the best available techniques and build up of long term domestic capabilities, will be devised for other sectors like nutrient deliveries, agro-mechanical technologies and the use of newer materials New materials will require to be introduced in the agricultural sector. An Action Plan is being implemented for 15 districts for the use of plastics in canal lining, water conservation, agricultural packaging and modern water delivery systems and green houses.

technological back-up for agriculture

The GVK Rao Committee has suggested a major reform of the agricultural research backup support for Indian agriculture It is suggested that the ICAR must be run by a fully professionalised governing body This would require that the Council be given much higher administrative and financial autonomy. Also the Committee has suggested streamlining of the Council headquarters with high incentives to the scientists to work in the ICAR institutes and field projects. Priorities have to be more clearly identified and financial support given for a more streamlined and learner research system These are important suggestions and, if judiciously examined and implemented, would go a far way in releasing the tremendous potential energy available in the Indian Agricultural Research establishments for resolving the nation's agricultural and rural development problems The agroclimatic regional planning project is designed around the application of technology to the differing agro-climatic regional conditions. The Regional Planning teams are each headed by a Vice Chancellor of one of the Agricultural Universities and the primary emphasis is on optimal land use and scientific technological backup for agriculture in the differing agro-climatic regions of the country

The delivery of agricultural credit is providing a major challenge for technological upgradation for agricultural and rural development in the next phase NABARD has developed a scheme for providing 'no overdue cover' for primary credit societies This requires concerted action between the cooperative movement, the State Governments, the financial institutions and the Government of India. The purpose of the reform should be to see to it that it is the individual defaulter who is penalised and not a cooperative society, so that the credit line is kept open and can vibrantly meet the requirements of expanded production in the agricultural and rural sectors. This will also require firmness against wilful default sectors. This will also require firmmess against wilful default and a measure of ingenuity in organisational reform to meet the rising genuine needs of rural credit.

price support operations

An aspect of Indian agriculture which needs to be more carefully studied is the fact that some dryland agriculture regions are showing relatively high value added per worker. Thus after Punjab and Haryana, States like Gujarat and Karnataka which have very low irrigation intensities are showing relatively high value added per worker These regions have benefited from concentrating on "high valued" crops. Behind these "trends" however, is probably organisational and institutional systems, which have led to successful commercialisation of agriculture including relatively successful cooperative marketing systems. Improved price support operations for commercial crops and strategy of reducing the uncertainty of dryland agriculture and internalising the benefits of the available technologies These policies will have to be an important part of the overall strategy as Indian agriculture moves over to a more regionally diversified phase, from its earlier "favoured crop-region" pattern

"An interesting feature of the work of some of the voluntary groups is that the cost estimates of features like contour bunding, check dams, land levelling and digging of percolation tanks and soil conservation work is lower than that in official projects."

The new agro-processing technologies also have many land saving properties. With proper control, more value added can be extracted from the same land based raw material or energy input. Also since improved agro-processing technologies involve recycling, they have fewer adverse environmental consequences A large scale fully instrumented sugar factory can reduce coversion costs of sugar by over 40 per cent over a traditional plant. New paper plants are not polluting.

land to the tiller

The institutional setting of Indian agriculture has to be thought of not only in terms of improved delivery of land augmenting resources like water, seed and fertilizers, particularly to small farms, improved agro-processing and marketing techniques, but also of land reform. Redistribution of land to those who till it and security of tenure are important preconditions to improving the productivity of land and employment in agriculture. We will have to develop the modalities of giving assumed rights to those who till the land and provide them with credit and input support. This will be both a political and an organisational challenge.

The various bits of evidence available suggest that certain structural changes have set in in asset holdings, employment and labour market in rural India, due

most plausibly to the pattern of agricultural growth that has taken place. While no perceptible change is observed in the distribution of owned land holdings, tne technological and organisational factors seem to compel augmentation of operated land in the case of small and large holders and leasing out of the very marginal holdings. Thus, a large number of marginal holders are becoming available for and primarily dependent on wage labour. Further evidence from some areas, particularly the agriculturally faster growing ones suggests that regularity of farm employment has increased over the period as a result of rise in cropping intensity and emergence of work allied to agriculture; this has meant longer term, more or less regular employment, for some as against short period employment for many.

The above changes in the structure of activities, labour force and employment in the rural areas need to be closely watched from the viewpoint of the strategy and programmes for rural development, employment and equity. In particular, the programmes should take account of the two important changes; one, increasing need to emphasise wage employment on a regular basis as more people are now looking at wage labour as the main rather than a supplementary means for livelihood; and two, the possibilities of rendering the non-agricultural, particularly the manufacturing activities in the rural and semi-rural areas, economical and dynamic, as increasingly larger number of rural workers would have to look for productive employment outside agriculture.

"Priorities have to be more clearly identified and financial support given for a more streamlined and leaner research system. These are important suggestions and if judiciously examined and implemented would go a far way in releasing the tremendous potential energy available in the Indian Agricultural Research establishments for resolving the nation's agricultural and rural development problems."

local level planning

Given the magnitude of rural poverty and unemployment, there is now general agreement in the country that large scale employment schemes and self employment promotion programmes have to be accepted as an integral part of our long term development strategy. There is also agreement that the mix of the two sets of programmes could be varied depending on specific circumstances of each region or block. It further appears that if a large number of beneficiary-oriented and area development programmes have to be operated in isolation, the results will not be conducive to optimal use of available scarce resources.

For all these reasons, the time has come to integrate these programmes, including programmes for social services, into the framework of comprehensive local level planning. As part of strengthening the local level planning capabilities, the technical expertise of the rural development administration at all levels will need to be upgraded. If various leakages are to be avoided, it is necessary to revive and revitalise the Panchayati Raj institutions (local self-Government) as a means of enlisting requisite public cooperation and support for programmes of grassroots development. There are a number of examples of outstanding integration of programmes. Instances come to mind both of voluntary agencies as also of dedicated officials. In watershed development areas, soil and contour bunding has been done through NREP/RLEGP programmes and saplings purchased through IRDP programmes. In Fishery Programmes, NREP funds and resources have been used for deepening fish ponds.

industry in rural regions

Another key element in the strategy for effectively tackling the problem of rural unemployment is accelerating the tempo of rural industrialisation. There is by now a fairly dramatic shift taking place in the structure of the labour force of the Indian economy. The sectoral composition of the labour force, which had remained constant at around 73%, is now changing. The constancy of this rate had been emphasised in a plan document in which the employment chapter was widely attributed to the late Prof. Raj Krishna. "It is a historically unique fact that over the last six decennial Censuses, in spite of impressive development of the large-scale manufacturing and infrastructure sectors, the share of agriculture in the workforce has not diminished at all. It wa 73% in 1921, 73% in 1961 and 73.8% in 1971. The figure for 1971 is in fact slight higher than for 1961. In almost all countries, economic development is associated with a significant decrease in this share. Even during the decade 1965-75, the share declined in 13 Asian countries. But in India, fairly rapid growth in the non-agricultural sectors in the last 25 years of planned development has completely failed to make any noticeable impact on the industrial distribution of the workforce. The latest figures, however, show that there has been a dramatic change in this constancy. The share of male agricultural workers dependent on the agricultural sector has fallen from 83.23 per cent in 1972-73 (NSS 27th Round) to 76.8 per cent in 1983-84 (NSS 38th Round). As agricultural productivity increases and farmers are assured of remunerative price, the incomes accruing to rural agricultural families are bound to increase and consequently generate greater demand in the secondary and tertiary sectors. The rising rural agricultural income can sustain industrialisation which effectively absorbs the

surplus agricultural labour, if sufficient infrastructure and input facilities are provided in selected rural areas. Mere provision of credit may not be sufficient to start process of rural industrialisation. Special attention needs to be focussed on aspects like training the rural people for appropriate skills, providing marketing assistance, choice of projects which are viable, technical assistance both at the stage of project implementation as well as in sorting out problems after the project has gone on stream. Organisations which can backstop such efforts whether in the cooperative or in the private sector, will need full support. Financial institutions can play a major role and are therefore involved in the agro-climate planning exercise to support agro-based industrialisation. A number of exciting changes are already taking place. Poultry, for example, is a very fast expanding sector. The feed/output ratio in the organised poultry sector is showing dramatic improvements. If we can produce more meat/eggs with less feed, more grain is left for human consumption If, as is reported, the feed/output ratio in poultry has gone down from say 2.6 kg/kg of meat to 2.18 kg/kg of meat, on an average we save more than 50 calories per head of the population per month. As is well known, these kinds of changes are possible only by computerised techniques of breeding, poultry health and integrated management. The essence of the matter is to use modern technology for input backup and output processing and to support the small producer who uses his own labour, with such backup. The concrete details of a large programme will need to be worked out. A successful rural industrialisation programme should aim at increasing the value added of agricultural produce as well as make available goods and services required by agricultural families in rural areas.

The problem of rural poverty and unemployment is indeed both massive and complex. There are no easy ways in which it can be tackled. No one strategy will give the desired results. The overall development strategy ought to be so designed that it promotes a vigorous growth of the economy which can generate stronger trickle down effects, combining it with carefully worked out target-oriented programmes.

A new dimension proposed to be adopted in our planning needs a mention in this connection. At the instance of the Prime Minister, exercises have commenced to prepare agricultural planning strategies at the level of 15 agro-climatic regions. Crop planning and technological support can be planned in detail at this level.. Also non-crop agricultural sectors like animal husbandry, forest development, horticulture and fisheries can be planned at 'this level and integrated with a progressive and dynamic agro-processing sector. This kind of planning will give additional dynamism to the agricultural sector.

Improved planning machinery of the kind discussed above will have to be integrated with the Panchayati Raj set up being discussed. The Chief Secretaries' Conference has considered the recommendations of the meetings of Collectors arranged by the Department of Personnel. These views as also the recommendations of the CAARD Committee under the chairmanship of Shri G.V.K. Rao are at an advanced stage of consideration. The Eighth Plan will be a period of major developments in this area.□□□

"Redistribution of land to those who till it and security of tenure are important preconditions to improving the productivity of land and employment in agriculture. We will have to develop the modalities of giving assumed rights to those who till the land and provide them with credit and input support."



Panchayat perestroika in Andhra Pradesh

Karnam Ramachandra Rao

The author, who is Panchayat Raj Minister in Andhra Pradesh, here highlights in detail the Mandal system under Panchayat Raj as introduced in the State recently, based on the recommendations of the Ashok Mehta Committee. This, he claims, became necessary as the Panchayat Samithis, constituted under the earlier system, belied all hopes of promoting comprehensive rural development. 'Because', he laments, 'lack of coordination among the different agencies, unwieldy management, excessive importance to power and prestige at the cost of service to the people and weak financial base contributed to this deterioration which crept into the system.'

ANDHRA PRADESH IS ONE OF THE POINEERING STATES in the country in introducing three-tier system of Panchayat Raj. It was introduced in the State as early as November 1, 1959 as per the recommendations of the 1957 study team on community projects and national extension services headed by Balwant Rai Mehta. This system had a good start and peoples' programmes were taken up in right earnest and liberal public contributions were offered in cash and kind for taking up community welfare programmes like construction of roads, drinking water wells, school buildings, Primary Health Centres, Panchayat Ghars, etc. Unfortunately, the initial enthusiasm shown for this programme did not last long. Though the Panchayat Raj system is envisaged to usher in Gram Swaraj as visualised by the Father of the Nation, Mahatma Gandhi, for making local self Government units self-reliant and self-sufficient in all respects, the objective has not been achieved to the extent desired.

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hopes belied

Under the earlier system, the Panchayat Samithis are entrusted with the responsibility of implementation of all Rural Development Programmes which are taken up from time to time. The Panchayat Samithis were started with a lot of hope that they would promote comprehensive Rural Development Programmes in the field of agriculture, irrigation, animal husbandry, cooperation, communication and industry, etc., but in the course of time these hopes were belied. Lack of Co-ordination among the different agencies, unwieldy management, excessive importance to power and prestige at the cost of service to the people and weak financial base contributed for this deterioration which crept into the system. Parallel institutions promoted by the Government from time to time also caused damage to Panchayat Raj system. Another important reason for the decline of Panchayat Raj institutions was that the development activities instead of flowing through the Panchayat Raj institutions were channellised through parallel agencies like Small Farmers Development Agency, Drought Prone Areas Programme now called District Rural Development Agency, Integrated Tribal Development Agency which were not brought within the purview of the Panchayat Samithis and Zilla Parishads The Panchayat Raj institutions were ignored and by-passed and parallel agencies were created for implementing some of these vital programmes meant for rural development.

the reasons

It must also be conceded that the domination of Panchayat Raj bodies by the rich and the upper castes, resulting in the denial of benefits to weaker sections, was another factor for its decline. To provide succour and benefits to weaker sections it became necessary to start specialised agencies like District Rural Development Agency, Integrated Tribal Cooperative Finance Corporations, etc.

Ignoring of the Panchayat Raj bodies in plan preparation such as five year plans and annual plans, and unwieldy nature of the blocks was yet another factor. The block as a unit of planning and for the purpose of the implementation of all Rural Development Programmes have been found unwieldy especially for the purpose of implementation of anti-poverty programmes. The common man found it difficult to reach Samithi Headquarters frequently for getting the services of extension staff.

In the course of time, power politics dominated the Panchayat Raj institutions and those institutions started pulling in different directions which resulted in lack of coordination in their activities, and in the process the real objective was lost.

panchayat perestroika !

With a view to restructuring the Panchayat Raj set up in the State, the Government of Andhra Pradesh have brought in a new legislation called the Andhra Pradesh Mandal Praja Parishads, Zilla Praja Parishads and Zilla *Abhivrudhi Sameeksha Mandals, etc. Act 1986* by repealing the Andhra Pradesh Panchayat Samithis and Zilla Parishads Act, 1959. This Act has come into force with effect from January 15, 1987. In pursuance of the provisions of the new Act, 1091 Mandal Praja Parishads and 22 Zilla Praja Parishads have been constituted with *effect from the same date.*

It has been felt that the delivery system at lower spatial levels for socio-economic development for the last two decades called for radical review The Andhra Pradesh Government has, therefore decided to reorganise and strengthen the Panchayat Raj setup for bringing the administration nearer to the people and decided to usher in Mandal set-up in the light of the recommendations of the Ashok Mehta Committee on Panchayati Raj Institutions (1978) set up by the Government of India with a modification that the Gram Panchayat will remain at the grassroots level. The Mandal set-up is proposed to usher in smaller units of administration both for regulatory and development administration. A Mandal has been proposed for a group of villages with population ranging between 35,000 and 55,000 with a suitable relaxation in the norm for backward and tribal areas.

new panchayati set-up

In the reorganised system the President of the Mandal Praja Parishad and Zilla Praja Parishad is elected directly by the registered voters in the Mandal and Zilla on Party basis. To provide opportunities for all the communities and backward classes people a reservation of 15% is made for scheduled castes, 6% for scheduled tribes and 20% for the backwards castes. A provision of 9% reservations is also made for women Presidents of Mandal Praja Parishads. Similar reservation is also made for Chairman of Zilla Praja Parishads. While reserving 6% of the offices to the Scheduled Tribes for the post of President of Mandal Praja Parishad care is taken to see that if the area of the Mandal is in a scheduled area it shall be compulsorily reserved for scheduled tribes irrespective of the proportion of their population. There is a provision to elect one representative of the scheduled caste or scheduled tribes or backward caste or minorities or women for each standing committees.

finances

To improve the financial position of Mandal Praja Parishads Government has made provisions allowing the Mandal Praja Parishads the following functions:

(a) Levy taxes, surcharge of fees;
(b) To levy contribution from the Gram Panchayats;
(c) To get annual grant of Rs. 5 percent from the State Government,
(d) To get funds relating to schemes transferred by the Government; and

(e) To get a share of income of the former District Boards.

Similar provisions have also been made in respect of Zilla Praja Parishads to improve their financial position, Recently, the State Cabinet took a series of decisions aimed at diversion of more financial resources and increased power to local bodies in the State. It was decided that of the 90 per cent of entertainment tax collected in the state 30% would be allotted to the Mandal Praja Parishads and 60 per cent to the Panchayats. Gram Panchayats would be permitted to raise loans from various financial institutions for construction of commercial complexes which would be a permanent source of income. It was also decided that income from the collection of minor mineral cors would be shared by Panchayats and Mandal Praja Parishads in the ratio of 60:40. Funds under NREP and RLEGP would be directly released to Zilla Praja Parishads. It was also decided that income under social forestry programme would be shared by the Gram Panchayats and Mandal Praja Parishads in the ratio of 60:40 percent. The Mandal Praja Parishads would also be given power to review programmes under the departments of fisheries, marketing, irrigation, social welfare, health and medical, agriculture and cooperation. Each Mandal is being provided with the STD phone. vehicle etc., and the Mandal President is being treated on par with Member of State Legislature.

MPP & ZPP set-up

The composition of Mandal Praja Parishad is in such a way that the Sarpanch of every Gram Panchayat is an ex-officio member of the Mandal Praja Parishad. The M.L.A., representing a constituency which comprises the Mandal becomes a member of the Mandal Praja Parishad. If his constituency covers more than one Mandal he can choose his Mandal. Similarly, a member of Parliament—Lok Sabha, or Rajya Sabha— can choose a mandal of his choice.

The M.L.A.'s and M.P.'s have a right to participate in the proceedings of any other Mandal Praja Parishad which falls in the territorial jurisdictions of these members. However they shall not be entitled to vote at such meetings. No M.L.A. or M.P. is permitted to hold duel post of M.P. or Mandal Praja Parishad or Zilla Praja Parishad. Within 15 days from the date of election to these bodies they have to choose either of the posts.

standing ZPP committees

There are 6 standing committees for Zilla Praja Parishad. The standing committee No. 1 deals with development activities such a planning, irrigation, animal husbandry, co-operation, industry, etc. The Second Standing Committee deals with education including social education, medical relief, public health; drainage, etc. The Third Committee deals with communcation, rural water supply, powers, etc., and the 6th Committee deals with finances, taxation, etc.

The Zilla Abivrudhi Samiksha Mandali reviews the development activities of all the departments in the Districts and also reviews any other matter that is referred to it by the Government.

people's involvement

It would be seen from the structure of Mandal Praja Parishad and Zilla Praja parishad that the administration has been taken close to the people. This arrangement would accelerate the tempo of all-round progress and development of the area. The recommendation of Asoka Mehta Committee for constitution Mandal System did not influence most of the States in India. However, Andhra Pradesh accepted the Mehta report and constituted a cabinet sub-committee formed by the State Government. This system is under implementation now. By introducing the Mandal Praja Parishad system, the State Government hopes to involve the people positively in the political process as well as the grossroots levels of the system. The system also helps in providing basic educational facilities to the illiterates to develop awareness leading to better life. This Mandal System also provides encouragement to the youth. in the concept of self-reliance.

In view of various other welfare measures announced by the Government of Andhra Pradesh, like simple window delivery system of all financial assistance in the co-operative sector and introduction of Rasthra Karshaka Parishad at Mandal levels, will provide enormous impetus to the Mandal Praja Parishad to provide relief and economic benefits to all the people. This system, it is hoped, will reduce social tensions and economic indebtendness among the rural people. It will also help in speedy clearance of employment schemes for the unemployed as well.

special features

Some of the special features of the Mandal, Zilla Praja Parishad systems, included reservation of seats for Backward Classes and Women for the first time in India. Again, for the first time in India there is a direct election to the posts of Chairmen or ZPP's and of M.P.P.'s, The Act also provides for an anti-defection clause which will prevent all kinds of horse-trading. It also provides for election of one representative of minorities, linguistic or religious, for election to the Mandal's and Z.P.P.'s.

The creation of revenue Mandal and decentralization of administration, will help the Mandal system greatly. because most of the Government functionaries of Revenue and Development will now be available at the Mandal Headquarter level providing lot of relief to the people.

The new Mandal System of decentralization of administration is taken up with a true spirit of service to the people, to the under-privileged for whom this is really meant. It is hoped that with this new Mandal Administration the basic amenities and facilities of day-to-day life of the poorer sections will be met and the local units shall enjoy autonomy in their functioning.



Decentralisation of planning thro' Panchayati Raj

Prof. Kamta Prasad

The role of Panchayati Raj institutions in the States where they are working is only peripheral, says the author. Because these institutions, he observes, have very little involvement both in planning and in selection of IRDP beneficiaries or in sanctioning the schemes under NREP. Reason ? According to the author, 'a planning framework which assigns an insignificant and purely subsidiary role to the all-powerful bureaucracy is not likely to be effective under the present circumstances. It is, therefore, expedient to proceed gradually towards the ultimate goal of transferring all planning functions to panchayats within an agreed time frame, say, a decade or two at the most'. To achieve this objective, the author says, 'it is necessary to put more emphasis on the participative approach by a restructuring of the district planning machinery'.

THE PANCHAYATI RAJ INSTITUTIONS (PRI) have been in existence for quite some time in our country. However, their working has never been satisfactory. They have not been endowed with the necessary powers and resources. Even elections to these bodies have not been held regularly. Quite often, the bodies have remained superseded for long periods of time. Both the politicians in the government as well as bureaucrats regard them as rival centres of power and hence tend to adopt a step motherly attitude towards them. There is nothing in the Constitution of India to prevent them from this since the reference to Panchayat made there (Art, 40, Part (IV) comes under the Directive Principles of State Policy and, therefore, is of not much operational value. Consequently, there has been a gradual decline in their status and effectiveness, more rapid in some states and less in others.

past experience-a peripheral role in planning

Planning has, no doubt, been mentioned as one of the functions of the Panchayats in the PRI Acts in most States. But in actual practice, these institutions have very little involvement in planning which has remained

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centralised mainly at the national and, to some extent, at the state levels. Some part of the responsibility in the local level planning of the Integrated Rural Development Programme and the National Rural Development Programme has, no doubt, been assigned to the PRIs in recent years. Thus, Gram Sabhas or village assemblies are supposed to be associated at the stage of selection of IRDP beneficiaries. And the Panchayats have been authorised to propose schemes for consideration under the NREP. In some States, they are also authorised to propose schemes under some other programes. However, in actual practice, the village council/Gram Sabha has not played any important part in the selection of the IRDP beneficiaries. Quite often, it is the heads of the village and block pachayat institutions and some influencial villagers who are taken into confidence for this purpose. In the case of NREP, the panchayats have no role in sanction of the schemes.

the experiments

Karnataka is one State which has recently taken a bold step of making the Panchayati Raj institutions responsible for planning at the district level and below. West Bengal is another state which has also taken significant steps in this direction in recent years. How far these experiments will succeed, only future can tell. However, in some States like Gurjarat, Maharashtra, U.P. and J&K significant steps for decentralisation of planning at the district level have been taken during the past five years or so, entirely separate institutions for district level planning have been established. Known by different names in different States, e.g., District Planning Board, District Planning and Development Council, etc., these bypass the Panchayati Raj Institutions. These are essentially bureaucratic organisations even though some representatives of the public are associated with them. Elsewhere, even this is lacking. Thus the role of the Panchayats so far in the Planning process have by and large been negligible or at most peripheral.

the potential

The above situation should be regarded as most unfortunate in view of the widely felt need to decentralise the planning process. During the last few months, the need for decentralisation of planning has been advocated repeatedly by no less a person than the Prime Minister himself. It is quite obvious that any scheme of decentralised planning should have an adequate degree of people's participation since it is this participation which provides one of the most important reasons for decentralisation. However, it is only at the level of the village or the Mohallas of bigger villages/ towns/cities that the people can participate directly. At any level higher than the village, say a Mandal, block or district, people's participation in the planning process can be possible only through their representative institutions, namely, the Panchayats. Decentralisation of planning in the real sense would, therefore, naturally imply handing over planning functions to the Panchayati Raj institutions.

People's participation in planning through the panchayati raj system is expected to result in better and more efficient planning because the local people have a better perception of their needs and better information about local resources. Besides, they have a better awareness of possible linkages of different activities within a village as well as between neighbouring villages. Such participation in planning has the added advantage of raising the level of people's consciousness of their rights and responsibilities, which in turn would tend to facilitate social change. Involvement of the panchayats, in the planning process may also provide the local people with an opportunity for advancement on the basis of self-help and mutual cooperation, thus augmenting developmental effort. The active involvement of Panchayats in the planning process would be specially useful at the stage of formulation of objectives and laying down of priorities of the plan and making them attuned to the felt needs and problems of the people. This involvement would be also useful in identification, formulation, selection and location of schemes of local importance, in monitoring and evaluation of projects/programmes, as well as in collection of reliable data and information.

"Both the politicians in the government as well as bureaucrats regard them (Panchayati Raj Institutions) as rival centres of power and hence tend to adopt a step motherly attitude towards them. There is nothing in the Constitution of India to prevent them from this".

Panchayats should, of course, perform these roles not alone but with the help of local level bureaucracy as well as experts. Thus statisticians will still be needed to cross check the information collected by people or their representative so as to take care of their personal or group biases which might creep in. Formulation of objectives and determination of priorities would be facilitated and made more efficient if alternatives with necessary details are presented before the panchayats by some planning team. Widespread publicity and extension may be necessary to enlighten the public about the problem of local development, types of projects and nature of benefits available. Before deciding on specific projects or schemes, it would be better if the panchayats are provided with comments on their socioeconomic and financial viability. This would ensure that public involvement does not result in the plan becoming a mere list of demands from a narrow-local perspective.

bottlenecks and suggestions

There are several resons why the panchayats have not been given the powers and resources necessary for their effective functioning despite the great potential discussed above. Basically it has been due to political and administrative tradition and attitude. There has been a general reluctance to decentralise powers, and to

deviate from the age old centralised administrative system. However, the unwillingness to hand over greater powers to the panchayats is often sought to be justified on twin considerations of *equity and efficiency*. In respect to the first, it is said that the public is not a homogeneous entity. It is comprised of groups that often have conflicting interests: some groups are more powerful and articulate and some less so. The weak and the underprivileged comprise the majority. But they are afraid to speak out before the more powerful minority consisting of bigger landlords or persons with muscle power who tend to dominate the panchayats. It is, therefore, alleged that the pachayats would not be in position to safeguard the interests of the poor majority. The second argument is that the decision-making process of the panchayats would be less efficient. Past experience indicates that the elected

"Any scheme of decentralised planning should have an adequate degree of people's participation since it is this participation which provides one of the most important reasons for decentralisation."

functionaries of the panchayats occupy their position not on the basis of public works, efficiency and integrity but on considerations of caste, class, religion, ethnic group, family status, land holding, money or muscle power. Consequently, they are not expected to perform their duties with competence.

We do not deny the validity of both these arguments However, let us also recognise that both these shortcomings can also be found in the functioning of the bureaucracy at the local levels. There have been numerous studies showing how the local level bureaucracy also tends to favour the more powerful and articulate sections of the public. Similarly, there are studies showing the inefficiency of the governmental machinery at the local level. On the other hand, there is some evidence that "wherever, the Panchayati Raj bodies have been actively involved, the implementation of rural development programmes had been decidedly better and the selection of beneficiaries and designing of schemes have been more satisfactory." (Govt. of India CAARD report, p. 41).

Besides, it may also be noted that both the problems of equity and efficiency are not such they can not be overcome or at least their incidence can not be reduced.

inefficiency

Take for example the problem of inefficiency. In the context of the involvement of Panchayats in initiating proposals for schemes under the NREP, it has been observed that every Panchayat member likes a particular scheme to be undertaken in his area or village so that he can claim some credit at the time of a subsequent election. This results in very thin spread of resources. Besides, it creates tension and has, therefore, become a thorny problem. But it can be taken care of in several ways. One method is to impart training to heads of Gram Panchayats on planning methodology. In particular, they should be trained as to how the developmental funds should be allocated and spent in the interests of the area as a whole. The unproductive nature of spreading resources thinly over wider areas should be brought home to them. Another remedy for this problem lies in evolving a block level five-year plan which has been a missing element so far in our decentralised planning. This will give an assurance to those Panchayats which may not be getting schemes in any current year that their turn will come later on within five years. This will reduce the pressure for equal distribution of funds every year. The block plans should specify an order of priorities with adequate justification. Further, if the Panchayats are assisted by planning teams, local experts, voluntary agencies and local educational institutions, then their working is likely to become more efficient

inequity

The problem relating to inequity is more formidable. It touches upon the basic functioning of the Indian society and polity. Much therefore will depend upon the overall trend in the political life of the nation as a whole. However, a great deal can be done by making the PRIs as broad-based as possible so as to reduce the unwarranted hold of the more powerful landed groups. If people at the village level become more active and assertive, if they become conscious of their rights and responsibilities, then this problem would be solved to a great extent. And the involvement of people in the planning process at the village level is bound to arouse their consciousness. But so long as this does not take place or if people's participation in planning at the village level is not tried, efforts may be made to reserve

"If people at the village level become more active and assertive, if they become conscious of their rights and responsibilities, then this problem (influence of powerful landed groups) would be solved to a great extent."

sufficient membership for the weaker sections at all levels of the PRIs. In addition, participation through institutions other than the PRIs may also be encouraged. Thus the views of voluntary agencies, trade groups, rural artisans, landless labourers, weaker sections, etc., may be taken into account before arriving at any decision.

prospects and future approach

Decentralisation of planning in the real sense would imply a complete change in the planning set-up from the prevailing bureaucratic-technocratic framework to a participative one. This would require that the district planning team, by whatsoever name it is called, should work directly under the Zilla Parishad, the district level Panchayat institution, as has already been introduced in Karnataka. This should be supplemented by similar arrangements at lower levels of planning at the block and the mandal. Decentralised planning becomes most meaningful and effective when the people themselves

(Contd. on page 55)



Why Panchayati Raj is feared

Bunker Roy

There is a growing awareness in the rural masses of their rights and duties and they know what questions to ask and to whom they should be addressed to, says Bunker Roy, who has first-hand experience of working among villages. In the following article he has tried, with earnest sincerity, to pin-point the faults and shortcomings that have caused the decline of the Panchayati Raj system. His theory is that there are people's solution to ordinary, common problems, but the authorities have no faith and trust in the community identifying their own problems. Quoting T.S. Eliot, the author poses a universal question to the planners: Where is the wisdom we have lost in knowledge; where is the knowledge we have lost in information ?" He strongly pleads to check the devalueing and destructive erosion of self-government so that cooperatives, trade unions, small municipalities, voluntary agencies and farmers' societies get an opportunity to grow and carve their own path of progress. His emphasis is on the consolidation of self-confidence in the community, because, he thinks that it is important to develop and acquire some self-respect before we try to reach the goal of self-reliance. The author claims that given a chance the village leaders would show that experts are not required, economists are not really needed nor elaborate plans are necessary when it comes to people planning their own future.

THERE IS NO LONG TERM PLAN of government to decentralise. A phased out programme of training village leaders to take responsibilities, make them aware of the laws of the country that concerns them, bring them in touch with the guidelines of various schemes, projects and programmes where the poor are entitled to subsidies, needs to be carried out and built into the planning process that spans more than one five year plan period. But for mysterious reasons this idea has been rejected. In the first meeting of the 90 District Collectors in Bhopal with the Prime Minister, this was one of the specific suggestions supported by all the District collectors present, but the response was. "we must go in this sensitive area slowly." Which means, this is not the time. Why not? In the absence of any such programmes corruption levels have gone up because

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village headmen and MLAs are not aware of the criteria, rules and procedures. Their involvement in the grass-roots planning process in marginal because they are told to leave such matters to 'experts'. What is actually their right is given grudgingly as a favour: the right to know is classified and used selectively. Information about their knowledge is kept secret. With no training, with no access to information and in the absense of any institutionalised forum at the village and block levels to insist that the process of planning can be decentralised is really adding insult to injury. It is President Nyerere who said very correctly, 'People can be developed: they develp themselves.' 'People can be developed: they develp themselves.' What seems to be obvious is that government would not like the people to develop themselves.

belief in maintaing status quo

We have a monopolistic delivery system where either the same person or same type of person performs all vital functions: (i) provides a service,(ii) collects information and (iii) monitors and evaluates the programme. In the absence of any other organised acceptable structure the same person is expected to judge his performance and evaluate himself. What this system has strengthened with its hierarchical structure of implementing anti-povery programmes is the firm belief that status quo must be maintained. This has resulted in the following:

(i) The devalueing and destructive erosion of self government institutions. Cooperatives, trade unions, small municipalities,voluntary agencies, farmers' societies have not been allowed to grow because they are a threat to the monopoly the lower level bureaucrats enjoy. If any alternative systems are allowed to grow with community support this means discipline and (what's worse) accountability and this is unacceptable.

"In the present system it is easy to pass the buck or find scape goats. If the system is tightened and planning is more disciplined and there is greater scope for public accountability, it would lead to decentralisation of sorts."

(ii) Poor information retrieval base: there is no way to check and verify through independent sources the reliability of the data they send so they are actually holding the whole planning process to ransom. Everyone knows we are planning on faulty data but because we ourselves have been responsible for developing, believing and trusting this monster of a delivery system we are impotent to do anything about it.

(iii) Dispute over ownership: who 'owns' the community assets being created with government funds? It is all very well to say glibly, "the panchayat." but in actual fact, the community is told in no uncertain terms-this hand-pump, school building, dispensary, pipe water supply is government property: Do not touch it. The rural poor does not think the assets are theirs. When the Community Development Programme started in the 50s the community used to maintain the brick and mortar assets. But at that time no government functionary in the village told the community—this is government propety.

consolidate self-confidence

What needs to be done?

First reduce the dependency of community on government. Identify human resources from the village who could be trained to provide a competent service (traditional midwives, village level health workers, hand pump mechanics, shiksha karmis) all under TRYSEM. It is important we develop and acquire some self respect among us before we think of self reliance.

Second, as in the National Policy on Education we should have also followed a policy of de-linking degrees from jobs in the rural development sector.

Third, negotiate a cut-off point beyond which it becomes too expensive for government to step in. A process of demarcating areas needs to begin. Once this exercise is complete the community through the panchayats will gradually develop the confidence to perform their function with minimal government assistance.

Fourth, get the community through the panchayats to collect information—rainfall and production data, infant mortality rate, land records, faulty identification of poor families under the IRDP, updating list of problem villages, provide information on the non-performance of schools. Such information is vital and needs to be fed into the planning process from below.

Fifth, start organising awareness campaigns on a massive scale through agencies outside the government system. The Organisation of Beneficiaries Scheme, the final outcome of a process that began with the 7th Plan, needs to be expanded to include informal and non-formal groups at the village and block level.

Sixth, give more importance and attention to promoting and encouraging alternative systems-cooperatives, associations, Panchayati Raj institutions, voluntary agencies so that with pressure from below they can make the government functionaries accountable at the village level, see that funds are better spent and they do the job they are supposed to.

What the current planning process has done more by accident than design is pump in an enormous amount of money for anti-poverty programme at the lowest administrative unit of the district—the Block. When the Community Development Programme started in 1952 the funds that the Block Development Officer (BDO) controlled was about Rs. 1 lakh. Now he has access to funds totalling Rs 1 crore. He is understaffed. He has tremendous responsibilities without authority. He has to show he has spent the fund and at the same time the system expected him to evaluate his own performance. They take him at his word. The system is already stretched to breaking point as he well knows,

there is no one to check what he claims to have done.

At the district level the position is even worse. At the first meeting of District Collectors in Bhopal the feedback was unanimous on the following three points:

(i) too many anti-poverty schemes for the same target group being implemented by too many different Departments leading to total confusion at the village level not to mention duplication and corruption:

(ii) too many district level committees in which the names only change but the faces remain the same—most of them counter-productive and a waste of time for the District Collector. For every Committee that is formed we know it is another way of not taking a decision and opting for a status quo positions.

"Regrettably we have made the process of planning so mysterious and complicated and almost intimidating that the net result is self defeating. Too much data is collected and too little used. Too much information collected that is irrelevant and often out dated."

(iii) too much dependence of the panchayats on government. This could change if the panchayati raj institutions were allowed to be activated by local level politicians.

authority without responsibility

Only the aura of the office of the District Collector remains. He has more power to destroy than to create, improvise and innovate within the system. The pressure on his time makes it impossible for him to plan for his district. The statistics he has to play around with is hopelessly out of date and usually in a state of shambles. The District Statistical Officer is virtually a nobody.

More and more it is evident the District Collector has no control over his district. As far as funds are concerned some Departments only inform indirectly: he is never consulted and he is rarely made a party to a decision when it comes to recruitment of staff. If his senior has visited of empire building the District Collector is often over ruled.

Obviously the answer is to have a District Pool where all the funds from all Departments earmarked for the district are collected,and then collectively decided how it should be distributed That would lead to a decentralised planning process which would be more realistic and be more conducive to integration between Departments. But funnily enough where the idea was mooted at the Collectors' Conferences there was mixed reaction with more people against it. Evidently they would like the authority without the responsibility. They have got so much used to pulling up people that they would not like to be put in a position where they would be pulled up themselves. In the present system it is easy to pass the buck or find scapegoats. If the system is tightened and planning is more disciplined and there is greater scope for public accountability, it would lead to decentralisation of sorts.

If there is one factor we have consistently underestimated, it is the people's ability to plan for themselves. Given a chance they would show why experts are not required, economists are really not needed and elaborate plans are not necessary when it comes to people planning their own future. It is, after all, an expert's job to make a simple process look and sound complicated just as it is a common man's job to get to the essence of the problem in a direct, matter of fact way. The American definition of an expert being "an ordinary man from another town" makes sense, but in India such an expert would throw the whole system of patronage out of gear. Regrettably we have made the process of planning so mysterious and complicated and almost intimidating that the net result is self defeating. Too much data is collected and.too little used. Too much information collected that is irrelevant and often out-dated. T.S. Eliot's universal question, 'Where is the wisdom we have lost in knowledge: where is the knowledge we have lost in information,' is the question planners must ask themselves. But in the scramble to offer impractical solutions on the problems of the nation as a whole the small, the insignificant, and the essential is always overlooked. We look on the macro-infrastructural problems of the public distribution system, but forget, perhaps deliberately, the human problems of getting a ration card We talk of lakhs of tons of wheat, rice, oil, kerosene, being allocated to the State without looking at the real issue why they are not reaching the last man through the small shops in the remote villages: that we say is not the planners problem. We insist on States preparing list of *problem* villages and stick to the list like the Bible even though it is five years too old. Village considered 'covered' (which means they have safe water supply for drinking) have become problem villages because the sources have dried up after facing drought conditions but no attempt has been made to update the list this is because no instructions have come from the top If an engineer took the initiative it would be taken amiss.

"So far, at the slightest pretext,drought, famine, security, floods, paucity of funds-village panchayat elections have not been held in many States for years with the result that villages leaders have not emerged to represent the voice of the silent majority."

ignorance of rural realities

There are *people's solution* to these problems which the government does not want to listen to. It is evident the government has no faith and trust in the community identifying their own problems. What is simple, inexpensive and effective—when it comes to methods, approaches and strategies of reducing dependency of community on government—is avoided like the plague. Any innovation that comes from the grassroots and can improve the system from within is never given a chance: it could expose and upset long standing unwritten arrangements between the village level government functionary and the rural rich. The sooner we recognise that the honourable Members of Parliament do not any

longer fully represent the poorer sections of the people of India we accept the fact that we are planning more for the government and less for the people: that people who should know what poverty is like are ignorant of rural realities: that planning for the poor should not lead to socio-economic change but in fact strengthening the status quo and patronage system: that development should lead to dependency: that access to information should be limited to the few since information is power: that if by accident a community collectively does struggle for change it strangely enough becomes a law and order problem (when in fact the issue before the bureaucrat is not a law and order problem: It is a law of order problem).

"There are hopeful signs that the people will no longer wait silent and patiently and see experts play with their lives from the gallery. For what it is worth an awareness has been generated about schemes and subsidies and what is rightfully theirs, and where they hare applied pressure from below, tangible results have been forthcoming from the system."

Why is popular participation in planning feared? It is to the interest of dominant caste groups and controllers of vote banks at the village level to see that the community does not get too independent: that too much of the right information is neither collected nor shared: that local self government institutions do not get too democratic and elections are not held with such alarming frequency-as they should. So far, at the slightest pretext- drought, famine, security, floods, paucity of funds— village panchayat elections have not been held in many States for years with the result that village leaders have not emerged to represent the voice of the silent majority. Thus when responsibilities have been given to village panchayats the so-called leaders themselves have refused to take it on. The maintenance of school buildings, dispensaries and water supply which used to be under panchayats right from the 1st Five Year Plan to the 4th Five Year Plan have been taken over by government. Once upon a time the community used to mobilise funds of their own for maintenance of these assets: that oneness and community feeling no longer exists. Now in villages there is a caste, there is a class but there is no community as such. In multi-caste areas this is the reality.

There are hopeful signs that the people will no longer wait silently and patiently and see experts play with their lives from the gallery. For what it is worth an awareness has been generated about schemes and subsidies and what is righfully theirs, and where they have applied pressure from below, tangible results have been forthcoming from the system. They have tasted blood and got their way. They have seen the impact of collective power and got their rights the hard way. Now they know what questions to ask and whom they should be addressed to, so if anyone in power thinks they are still dealing with illiterate, backward and primitive people they are sadly mistaken. ▣▣▣

(Contd from page 51)

become the planners at the village level as is being attempted on an experimental basis in the Midnapore district of West Bengal.

participative approach

The above scheme of decentralisation, however, does not seem to be feasible in the immediate future. No doubt, Karnataka has already made a beginning. But it is doubtful how long the Karnataka scheme will last and whether it will be a success. One should not forget the fact that the bureaucracy plays an important part at all levels of administration; so a planning framework which assigns an insignificant and purely subsidiary role to the all-powerful bureaucracy is not likely to be effective under the present circumstances. It is, therefore, expendient to proceed gradually towards the ultimate goal of transferring all planning functions to panchayats within an agreed time frame, say, a decade or two at the most. Towards that goal, it is necessary to put more emphasis on the participative approach by a restructuring of the district planning machinery so as to provide better representation and more active involvement of the panchayati raj institutions and by involving the public and their representatives in formulation of schemes at lower levels. Further, the various economic or occupational groups, voluntary agencies of repute, weaker sections and local experts should also be involved in the planning process in advisory capacities. The details would obviously vary from state to state depending on state specific situations.

regular Elections, Must

Finally, the most immediate task is to ensure that the panchayati raj institutions are allowed to function on the basis of elections held at regular intervals and not left at the whims and fancies of state authorities as has been the case so far. Judging by the experience so far, this is not possible without a constitutional amendment making it obligatory to hold panchayat elections under the auspices of an impartial election machinery and to transfer sufficient powers and funds to panchayati raj institutions. ▣▣▣



Panchayati Raj — the second phase

Dr. George Mathew

"Power to the people" has been accepted as one of the important guidelines in our country long back. Dr. George Mathew, a reputed social thinker, explains that the political and social impact of centralised power has been too debilitating and this by now has been recognised. Despite the best efforts of the government to bring the large masses of people above the poverty line, the funds are not reaching the target group. The simple reason is that local bodies are not functioning effectively. The author has given a survey of the estates where concrete steps have been taken to rejuvenate the local self government and hopes that these attempts would go a long way in the restoration of the Panchayati Raj in its true spirit. The wider involvement of people in the governance of their own affairs, is bound to make them more responsible and alert. The author pleads that local level institutions should not exist at the sweet will and pleasure of the government in power. Rather, they should lbe autonomous and guided by the larger interests of the local community within the overall frame-work of national interest.

IT IS HEARTENING TO NOTE that now there is renewed interest in the revitalisation of Panchayati Raj in the country. To my mind, there are two reasons for this welcome trend today. First, the evils of concentration of power is being slowly recognised by the powers that be. The political and social implications of centralised power have been too debilitating. This we had conveniently ignored all these years. At least now, on the economic front for instance, the Prime Minister has conceded that out of one rupee meant for development only 15 paise reaches the target group because local bodies are not functioning effectively. Second, in certain States in the 1980s when Panchayati Raj was being implemented with vision its positive impact on

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people's life has been conspicuous. This has opened the eyes of even those who were considering Panchayats as a nuisance or at best a necessary evil

I consider the Panchayati Raj in the Nehruvian era as its first phase. That was the period between October 2, 1959 when Jawaharlal Nehru inaugurated the Panchayati Raj and his disappearance from the scene in 1964. On the recommendations of the Balwant Rai Committee (1959) when Panchayats came into existence all over the country, the hopes of our rural folk were raised for *Grama Swaraj* and S.K. Dey the first Minister of Panchayati Raj was optimistic that it would become a way of life and new approach to government and that it will bring about a complete link up of our people from the Grama Sabha to Lok Sabha. After Nehru, Panchayati Raj declined, the reasons are well known and subject of analysis by many scholars.

For about 13 years between 1964 and 1977 Panchayati Raj was the whipping boy of all those who wanted to see that it must be discredited. For them Panchayati Raj was the incarnation of all evils in villages. Perhaps an exception of sorts during this period was the Panchayat system in Maharashtra and Gujarat

The appointment of the Ashok Mehta Committee in 1977 marked a turing point in the concepts and practice of Panchayati Raj and the second phase began when the West Bengal government took the initiative in 1978 to give a new life to its Panchayats on the lines of the Ashok Mehta Committee recommendations. Karnataka followed the West Bengal experience and soon Andhra Pradesh also opened a new chapter. Latest in this 'new breed' is Jammu and Kashmir—the new Bill was introduced in April 1988 in the J&K Assembly replacing the 1958 J&K Panchayati Raj Act.

"For about 13 years between 1964 and 1977 Panchayati Raj was the whipping boy of all those who wanted to see that it must be discredited. For them Panchayati Raj was the incarnation of all evils in villages. Perhaps an exception of sorts during this period was the Panchayat system in Maharashtra and Gujarat."

This article shall briefly attempt to mention some of the important features of the second phase of Panchayati Raj and in conclusion underline some significant pointers for future.

The most important underlying thrust of the second phase is that panchayat from being a development organisation at the local level has emerged into a political institution. The turn is for the predominance of political elements rather than the bureaucracy. This is a welcome trend.

West Bengal, Karnataka, Andhra Pradesh and J&K either revised their existing Panchayati Raj Acts or passed new Acts, theoretically accepting the Ashok Mehta Committee report. These States adapted the recommendations to suit their conditions and learnt from each other's experience in bringing forth a new legislation or amendments to the prevailing acts.

participation of political parties

In West Bengal the election on June 4,1978 saw for the first time in India, political parties participating in the local elections officially with their symbols. Although there was no legal bar on the participation of non-party candidates, according to the National Institute of Rural Development (NIRD) study the prevailing political climate and administrative arrangements had the effect of discouraging such participation.

There was considerable opposition to political parties' involvement but the CPI (M) and its allies preferred official recognition of parties in running panchayats, as they believed that direct involvement of political parties in the working of PRIs would make panchayati leadership more disciplined and responsible in managing these institutions of rural democracy and could put an end to the age-old tradition of rural coteries reaping the benefits for narrow, sectarian and caste interests.

"There is a general tendency to think that the ideal situation is to have consensus candidates in panchayats but it is not difficult to see that in villages the coercive power of traditional caste alignments, bullies and money power makes it possible for one person to get elected as a consensus member for years together."

Two noteworthy features of this election as brought out by the NIRD study were: (1) There was a high degree of political perception of the rural voter with no influence of caste in the socio-economic matrix, and (2) For the first time there was emergence of a new youthful, literate rural leadership in West Bengal. The political background for the above welcome changes were mainly two. (i) the Left Front government had promised substantial devolution of powers and resources to the local bodies, and (ii) the participation of political parties created large scale enthusiasm among the villagers.

In Karnataka, elections to Zilla Parishad and Mandal Panchayats based on the Panchayats Act 1985 was held in January 1987. In Karnataka also for the first time the local bodies elections were held on party lines. Karnataka also saw opposition for elections on party lines. But the Janata Party stood the ground by asking: If political parties are indispensable for parliamentary democracy, is it not important that they must take roots in the villages through the nursery of local bodies' elections on party lines?

During the election campaign the discussion and debates in village tea shops and market places were elevated to the level of political ideologies, assessment of balance sheets of political parties and the track record of political leaders.

There is a general tendency to think that the ideal situation is to have consensus candidates in panchayats but it is not difficult to see that in villages the coercive power of traditional caste alignments, bullies and money power makes it possible for one person to get elected as consensus member for years together. When people align on the basis of policies and programme of political parties this type of problems are minimal.

When Telugu Desam Party (TDP) came to power in Andhra Pradesh it had no special emphasis on Panchayati Raj. But in its *Mahanadu* (yearly convention) in May 1984 the party took the decision to bring drastic changes in the redundant PR system formally established in Andhra Pradesh on November 1, 1959. Thus the 1984 manifesto spoke about Panchayati Raj in unambiguous terms. It said that Telugu Desam will work for a directly elected district administration forming a third tier in the country's federal polity with proper constitutional backing so that people may have a democratic self-government at local level, not under the district bureaucracy but over it.

The TDP took Ashok Mehta Committee recommendation of twotier system seriously but slightly modified it to include village panchayat also. Andhra Pradesh tried to evolve its own system of local self-government. The elections were held in March 1987 to the Mandala Praja Parishads and Zilla Praja Parishads based on the 1986 Act. This election was held on party lines. It had evoked great popular interest throughout the state generating heated debates on political personalities, ideologies as well as people's issues and was popularly referred to as a "mini general election."

It is now clearly established that the local bodies elections on party lines have made the villagers of these three states much more politically conscious, giving the elected panchayat bodies a political standing of their own. The local leadership has become politically more responsible also Since the reputation of political parties depends on the integrity and performance of local leaders, the accountability is much more in these cases.

"It is now clearly established that the local bodies' elections on party lines have made the villagers of these three states much more politically conscious, giving the elected panchayat bodies a political standing of their own. The local leadership has become politically more responsible also."

wider participation

One of the indices of people's participation in local self-government is the large percentage of voters' turn out in its elections. In all the three States mentioned above whenever the elections to the panchayats were held there was high percentage of polling, in many cases women outnumbering men. Karnataka had reduced the voting age to 18 for the first time in the country. Now Andhra Pradesh also has followed suit. This has ensured youthful leadership and dynamism for local bodies. Although in West Bengal the voting age is still 21, young people are on the forefront of these bodies. According to a survey, 21 per cent of elected members were below 30 years. The NIRD study of the 1978 elections had shown that about 51.1 per cent panchayat members were in the age group of 21 to 35. It is clear that in spite of our deference for age, people prefer younger candidates.

Kirsten Westergaard's study of West Bengal says that a sizeable proportion of representatives elected are from lower castes and tribals and this representation is the first important step towards increasing the control over the panchayats on the part of the disadvantaged groups.

"The fact that the entire electorate takes part in the election of their local bodies chairman/ president at the two important levels is an indicator of wider involvement of people in the electoral process."

Another step taken in this direction by Andhra Pradesh is the direct election of Zilla Parishad Chairman and Mandal President. The fact that the entire electorate takes part in the election of their local bodies chairman/president at the two important levels is an indicator of wider involvement of people in the electoral process However, there are serious questions about the type of people who can contest such elections because of the cost involved in such elections for a large geographical area. It may be recalled here that the Ashok Mehta Committee had recommended only indirect elections for these posts.

care for weaker sections

It is now generally recognised that Panchayats in the three States under review have inspired the rural people and created self-confidence among them. In a survey conducted in West Bengal it was found that 80 per cent of the members came from among owner cultivators, school teachers, unemployed, landless labour, crop sharers and artisans Over 71% of owner cultivator members had land below 5 acres. Thus majority came from poorer sections of the village. This is a revolutionary change brought about through people getting political power as their right at the grass-roots level.

In Karnataka 25 per cent of the seats were reserved for women and 20 per cent for Scheduled Castes and Scheduled Tribes. This is for the first time such a progressive step has been taken in our country. In Andhra Pradesh also reservations have been enhanced. Under the Andhra Pradesh Panchayat Samithis and Zilla Parishads Act 1959 there were reservations only for SCs and STs. The 1986 Act provides for reservation of 20 per cent seats to Backward Classes and 9 per cent to women.

accessibility

A major concern for Andhra Pradesh and Karnataka in the devolution of power was that Mandals should be small and convenient enough for all inhabitants of the area to avail the services and participate in the administration. Therefore the Mandal Panchayats in Karnataka are based on the concept of the 'Growth Centre' or 'Service Centre' as envisaged in the Ashok Mehta Committee report. The parallel in old Mysore was 'Hublis.'

In Andhra Pradesh the TDP government's promise was that it will take administration "to the doorstep of the poorest of the poor". The Mandala Praja Parishad will have (population 30,000 to 60,000), a Primary Health Centre, a Junior College, High School, Veterinary Hospital, Telephone Exchange, Commercial Bank/Grameena Bank, Cooperative Bank, Sub-Treasury, Police Station and Post Office, a Godown, Market-yard, Vocational Training Centre and Credit Co-operative Society. N.T. Rama Rao had likened the Mandala Praja Parishads to "mini capitals"

"There is a general consensus that the new Act in Karnataka is the most radical measure of decentralisation attempted so far and if properly implemented will convert Karnataka into something like a federation of districts."

Earlier Panchayat Samithis were getting a per capita grant of 90 paise and the Zilla Parishads 20 paise. Now, Mandala Praja Parishads would get a grant of Rs. 5 and Zilla Praja Parishads Rs. 2 per capita. In Karnataka the government makes a grant at the rate of Rs.10 per person residing in Mandal, 25 per cent of this goes to Zilla Parishads. Mandals have powers to levy tax also.

In West Bengal, Gram Panchayat with about 10,000 people has become a convenient unit for local self government. Moreover, the Panchayat Samitis which are on block level have proved to be viable convenient units. There are 3,242 Gram Panchayats and 324 Panchayat Samitis in West Bengal.

All the measures adopted by West Bengal, Karnataka and Andhra Pradesh which we have briefly surveyed, converge at least to a District Government approach for the time being because th second phase seems to be giving more weight to the Zilla Parishad. Thus for instance, in West Bengal the District Magistrate is in all cases to assist the *Sabhadhipati* of the Z.P. A convention has also emerged in West Bengal in which the Chairmen of Standing Committees of ZP meet regularly This is a step forward in the direction of Cabinet system of functioning at the District level.

In Karnataka, the status, remuneration and perquisites equivalent to that of a Minister of State and Deputy Minister given to Zilla Parishad Adhyaksha and Upadhyaksha respectively is another step in this direction. There is a general consensus that the new Act in Karnataka is the most radical measure of decentralisation attempted so far and if properly implemented will convert Karnataka into something like a federation of districts. In Andhra Pradesh also the same status, remuneration and perquisites as in Karnataka are envisaged for Z.P.P. Chairman.

the new bill in Jammu & Kashmir

In 1958 the Jammu & Kashmir government legislated the Village Panchayat Act. The Act received the assent of the Sadar-i-Riyasat on November 7, 1958. The aim of this Act was to make better provision for the administration of Village Panchayats in the Jammu & Kashmir State.

Thirty years after the passing of the above bill, the J&K government introduced on April 2, 1988 another Bill in the Assembly. It is now under the consideration of the Joint Select Committee. It may be noted that this bill envisages significant changes in the existing situation of the local self government system in the State. The Bill makes it clear that the goal of this new legislation is to promote and develop Panchayati Raj in the State as an instrument of vigorous Local Self Government to secure the effective participation of the people in the decision-making process and for overseeing implementation of developmental programme.

The salient features of this new Bill are (i) Reduction of voter's age from 21 to 18; (ii) Holding the elections within six months of supersession of a Panchayat; (iii) Direct election of Sarpanch; (iv) Reorganisation of Panchayati Adalats, consisting of three members who will be nominated by the government out of a panel recommended by the Panchayat, (v) Empowering Panchayats to plan and implement schemes for rural industrialisation, agriculture, animal husbandry, health, primary education and so on.

For effective participation of the rural population in development programmes at grass roots level the Panchayat System will have three tiers: (a) *Halga Panchayats* will meet once in a month and will get its annual budget approved by the voters on the first working day of April every year; (b) *Block Development Councils*: These councils have the responsibility of maintaining and supervising the inter-circle communication system. The Block Development Councils consist of all Sarpanchs in a Block, MLA of their area (except Minister) and Chairman of any marketing committee or notified area committee with the BDO as Member Secretary. Block Development Council will get its grant from the government in proportion of the Council as directly elected by the people; (c) *District Planning and Development Boards.* Members of these Boards are: Chairman of all Block Development Councils, M.P. and MLAs from the District, Chairmen of two areas committees and President of Municipal Councils with district level heads of all development departments as ex-officio members.

(Contd. on page 74)



We need a viable panchayat package

S.M. Shah

Despite overwhelming support for Panchayati Raj institutions, we have failed in strengthening them. Why? Giving reasons the author says, 'students of political institutions have remarked that there is a silent resistance to giving powers to Panchayati Raj institution, mainly from two quarters—the bureaucracy and the political leaaership. The agents of Government felt that Panchayati Raj institutions take away from them the powers. Political leaders see into Panchayatı Raj instiutions their rivals rather than providing a fruitful ground for training to become future leaders. It is all a play of 'power-field'. No one wants to surrender the boundary of powers ! There are conflicts rather than cooperation. Besides this, we as a government failed to provide a workable 'package' of Panchayati Raj institutions with reference to their place in the political frame and in administration.'

AS A LOVER OF TRUE DEMOCRACY, Mahatma Gandhi upheld Panchayati Raj, for, he said, 'True democracy can not be worked by twenty men sitting at the centre. It has to be worked from below, by the people of every village'

Article 40 of Indian Constitution on Directive Principles of Sate Policy provides that State should take steps to organise village pachayats and endow them with such powers and authority as may be deemed necessary to enable them to function as units of self government.

three-tier-approach

Not that we did not act in this direction. The Study Team of Committee on Plan Projects headed by Balwantrai Mehta, in their Report submitted in 1957

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recommended a three-tier system of Panchayati Raj Institutions for self-government and gave the concept of 'democratic decentralisations' of poltical and administrative powers It had in mind decentralisation and democracy, The idea of decentralisation and development took front seat later. Henry Maddick says, 'there is a triangular relationship between decentralisation, democracy and development' Planners have accepted this approach. We are told that the approach to the Eighth Five Year Plan will be on grassroots planning Not that the earlier Five Year Plans did not advocate planning from below. Far from that

Thirty years after the much upheld report of Balwantrai Mehta, the Planning Commission laments woefully that the Panchayati Raj Institutions have not flowered on the Indian soil, whereas in the rural areas the panchayats flourished. Tribal panchayats even today have a hold and manage tribal affairs The Seventh Five year Plan, Volume II, mentions that community development and panchayati raj which provided an elaborate delivery mechanism has suffered' considerable erosion and gradual disintegration'. It further accepts that the Panchayati raj institutions have been reduced to extremely 'peripheral status'.

The third tier

Recently there has been a renewed interest in strengthening the panchayati raj institutions. Prime Minister Rajiv Gandhi has mentioned again and again that district planning should be married to panchayati raj to make them both effective instruments of democracy and development 'Panchayati raj without

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district planning would remain a hollow cell and district planning without panchayati raj would remain unrepresentative. But all this could not happen unless there is a 'qualitative change' in the devolution of powers to local units..

The Consultative Committee of the parliament on Public Grievances and Pensions has gone to the extent of suggesting that constitutional amendment should be undertaken so that district panchayati raj institutions become 'the third tier' of Government, the other two being the Central and the States. This would lead to creating 'district governments'.

Inspite of such an overwnelming support, and the fact that several States did form panchayati raj institutions with good results and bad, where have we failed? Several students of political institutions have remarked that there is a silent resistance to giving powers to panchayati raj institutions, mainly from two quarters— the beaucracy and the political leadership. The agents of Government felt that the panchayati raj institutions take away from them the powers. Political leaders see into panchayati raj institutions their rivals rather than providing a fruitful ground for training to become future leaders. It is all a play of 'power-field'. No one wants to surrender the boundary of powers. There are conflicts rather than co-operation. Besides this, we as government failed to provide a workable 'package' of panohayati raj institutions with reference to their place in the political frame and in administration." Also, we did not provide the where-withals of funds and personnel to these institutions with the result that they languished. They failed to develop a personality. They

"Panchayati raj without district planning would remain a hollow cell and district planning without panchayati raj would remain unrepresentative. But all this could not happen unless there is a 'qualitative change' in the devolution of powers to local units."

did not graduate. They could not bite. And they remained feeble, weak and suffered from 'malnutrition'. Can we now take better care of these institutions? The Mehta Study Team recommended creation of institutions which were to be statutory, elective, comprehensive in duties and functions equipped with necessary executive machinery with adequate resources and with enough autonomy and freedom. The Mehta Committee assigned greater responsibility to the development task, but the non-devolution of resources of revenues acted as a stumbling block for the performance of these tasks.

The basic philosophy behind the panchayati raj institutions was to evoke people's paticipation in developmental programmes. The Asoka Mehta Committee described the years 1959-64 as a phase of ascendancy, 1965-69 as phase of stagnation and 1969-77 as a phase of decline of panchayati raj. There is a view prevailing that the Central sector special schemes like IRDP and DRDA introduced in the Fifth and Sixth Five Year Plans deprived the panchayati raj institutions from allowing them to function. That also contributed to the erosion of their functions and responsibilities. These central sector schemes knocked down the panchayati raj institutions. Kamta Prasad has said that the central schemes carrying subsidy strike at the root of local level planning. Under the IRDP and like schemes, people have become subsidy-dependent or subsidy-grabbers and it is said that the banks, block officials all share this loot.

reduce bureaucracy

There are a number of different schemes in a district numbering more than twenty at a time. There are special officers for IRDP, ICDS, etc. This has given rise to a 'paternalistic attitude' and highbrow administrative practices. There is need to reduce, if not to retire, the bureacray from the rural seene and replace it with NGOs, the non-governmental agencies. There could be

user groups, producers co-operatives, social activists, social workers, educationists and the like. Some work can usefully be farmed out to professional agencies such as Institutes of Area Planning, National Institute of Rural Development and the Universities should be encouraged to have their experimental laboratories as the teaching medical colleges have rural centres. Let them evolve their own approach, which may be innovative rather than the schematic pattern we are following. Let there be fresh air, free experimentation. We must encourage such efforts.

various committees

The Asoka Mehta Committee suggested a two-tier model, viz., Zilla Parishad and Mandal Panchayats. True, village is not a viable unit for several activities. A mandal community of 30,000 may be taken as a viable unit. They emphasised management of rural development programmes and wanted the panchayati raj institutions to rise up to occassion. They emphasised that the existing scheme of distribution of powers between the Union and the States would require a detailed-out separate consideration. Following Asoka Mehta Committee Report, a model bill was prepared with a hope that every state government would follow the pattern and pass the bill. This did not happen, however.

"Inspite of such an overwhelming support, and the fact that several States did form panchayati raj institutions with good results and bad, "where have we failed? Several students of political institutions have remarked that there is a silent resistance to giving powers to panchayati raj institutions, mainly from two quarters-the bureaucracy and the political leadership"

The G.V.K. Rao Committee Known as CAARD (1985) pointed out that the decline in the status and authority of panchayati raj institutions may be attributed to the reluctance of political leadership at state level to share power with district leadership. The CAARD suggested to entrust planning, plan implementation and monitoring of rural development programmes to panchayati raj institutions at the district and lower levels. It also emphasised to hold local elections regularly. L.M. Singhvi Committee for revitalisation of panchayati raj institutions has emphasised the concept of district planning for effective rural development and nation building.

Inspite of such an overwhelming support from Committee after Committee, why then the panchayati raj institutions did not perform? Why they failed? And what should be done to revitalise these grassroots institutions if we swear by participatory democracy, decentralised development, people's participation, and grassroots, bottom up development strategy? It is very germane to consider some of the suggestions mentioned below in view of the fact that we are shortly to finalise our 'Approach to the Eighth Five Year Plan'.

what is needed?

Enough lip service has been paid to the panchayati raj institutions. What is now required is to evolve a viable 'package' and seed this in the states and all the more than three hundred districts and more than five thousand development blocks in the country. Green revolution succeeded because the 'package' of seed fertiliser-irrigation was just right. Why blame people, the people? It is our responsibility as planners to evolve a right package for the re-birth of panchayati raj institutions.

siting

The foremost requirement is that panchayati raj institutions should be given a proper 'site' or place in our political and administrative structure. The sub commitee of the Consultative Committee of the Parliament has recommended that the panchayati raj bodies should be constitutionally recognised. The district panchayat institutions should be given constitutional recognition to improve their functions. There is a central list, state list; there should be a 'local list' to indicate the powers and functions of these local bodies. The Constitution amendment should also lay down that the elections to district and their panchayati raj institutions be held once every five years. Funds should also be provided to organise the elections, preparation of electoral rolls, ballot boxes, invigilators etc. As there are central and state governments, there should also be 'district governments' responsive to the people. As there are central sector and state sector schemes it follows that there should also be 'panchayat sector' schemes.

In Nepal, under the Decentralisation Act 1982, the whole country is covered with a network of panchayats from village, town and district levels to zonal and national levels. The unit of local administration was made to coincide with units of different tiers of panchayats. The basic objectives of Panchayat System in Nepal are: (i) to build democracy from bottom upwards (ii) to associate people at all levels in the administration and make them participate in the progress of the country and (iii) decentralisation through genuine transfer of powers to the local bodies. Nepal's Third Five Year Plan (1965-1970) outlined 'panchayat sector' for utilising local resources for development. The Sixth Five Year Plan lays down a detailed procedure for the formulation and implementation of projects by local panchayats.

"There is need to reduce, if not to retire, the bureaucracy from the rural scene and replace it with NGOs, the non-governmental agencies. There could be user groups, producers co-operatives, social activists, social workers, educationists and the like."

codification of laws

There is need for the legal experts to look into the odification of laws relating to the panchayati raj odies in each state. These laws should refer to eriodicity of elections, the manner of fighting elections, he financial share of the district, mandal and village evel panchayats, their taxation fields and the limits and he functions like franchise selling, fees for user type ervices and generally to augment resources. The whole amut of taxation, grants and loans be covered in these odifications.

'An important handicap of local bodies is local nance. Local taxes are costly to collect and are oorly enforced. Weak administrative capacity limits e abilities of local governments to raise revenues fectively. Central governments world over regulate e few sources of revenues by controlling the tax rates, rohibiting increases in user charges and limiting the eans of revenue collection and enforcement. Tax forms are called for to broaden the base. Efforts ould also be made to increase the 'debt service pacity' of these units.

funding

Panchayats should increasingly tap the user charges r small works like rural approach and feeder roads, ral water supply street lighting, local dispensaries for ealth care and the like. Sale of franchise like use of char to shepherds for cattle grazing, renting out fish nds, forestry produce etc do indicate good possibilities. he World Bank in their 'World Development Report 988' has referred to the experiment in India followed South Arcot district. The 'corporate Villages' here ve a village council, maintain a village fund, and hold a neral meeting of the cultivators at least once a year. hey employ 'common irrigators' to distribute water tween and below the outlets. They also employ field ards to protect the bunds and crops from thieves.

R.C. Mascarenhas of New Zealand, in his study of ilk co-operatives in Karnataka has shown how e dairy co-operatives have combined commercial proach with producer participation. There is now eater emphasis on self help and problem solving. He s emphasised the need for building 'constituency ganisations' accountable to local people.

H.P. Chokshi in his study relating to the working of District Panchayats in Gujarat has recommended to set up a Panchayat Financial Corporation to augment their finances. The State Finance Commissions should look into the question of sharing the taxes between the state and district panchayats etc.

expertise

There is need for building the planning expertise at the local level. This has been emphasised by Dantwala Committee on Block Level Planning and also by the Planning Commission's Working Group on District Planning (1985). In 1977 the Ministry of Rural Development, Goverment of India, prepared twenty detailed 'Block plans' indicating integrated area development of all the settlements within these blocks. An inter-disciplinary team of experts-economists, statisticians, sociologists, geographers and engineers, architects prepared detailed operational plans indicating missing infrastructure with reference to education, health, markets, industries, retail trade etc. These exercises need to be updated and propagated.

training

Continuous training of panchayati raj personnel is very necessary— an aspect that has not been emphasised by the earlier Committees. Nepal has a central Panchayati Raj Training Institute and also state level panchayat training centres. The central Institute should develop a methodology and discuss decentralised planning, organising the poor, women, youths and the like etc. Training syllabus should be developed and tested in the field. Case studies should be undertaken for experimenting in the field the approaches advocated. The Indian Institute of Public Administration and the National Institute of Rural Development should be asked to open separate Centre for panchayati raj institutions. Political scientists and others should be drawn into it.

Let me close by a quotation from 'Mahatma Gandhi on Human Settlements'

> 'We are all leaves of a majestic tree whose trunks cannot be shaken off its roots which are deep down in the bowels of earth. The mightiest wind can not move it.'

> **"Enough lip service has been paid to the panchayati raj institutions. What is now required is to evolve a viable 'package' and seed this in the states and all the more than three hundred districts and more than five thousand development blocks in the country."**



Are we really serious about Panchayati Raj ?

Dr. T.K. Tope

A prominent educationist and former member of the Law Commission of India, Dr. Tope has suggested legal fortifications for an effective decentralisation of power, which, he hopes, would enable local self-government institutions function with greater confidence. Referring to certain undisputed happenings of the recent past, the author points out that the political culture of India lacks tolerance which is an essential ingredient for sharing of power. He quotes extensively from the Ashok Mehta Committee report which says that Panchayati Raj institutions are dominated by economically and socially privileged sections of the society and, as such, facilitated the emergence of oligarchic forces yielding no benefits to weaker sections. An expert in legal matters, Dr. Tope has discussed the Panchayati Raj system from legal point of view. Keeping the Sarkaria Commission's recommendations in mind, he proposes that each State should have an Election Commissioner who should be responsible for conducting elections of Panchayati Raj institutions. He goes to the extent of recommending that political parties should be prohibited from seeking elections to Municipal Corporations and Nagar Parishads so that people should get an opportunity to decide for themselves who their representatives should be without any political consideration.

IT WAS SEVEN YEARS AFTER THE inauguration of our Constitution, that a study team was appointed to study *interalia* the pattern of existing district administration and suggest its reorganisation. The study team was known as Balwantrai Study Team, Shri Balwantrai being the head of the Team. The study Team recommended administrative dencetralisation for effective implementation of development programme and further laid down that the decentralised administration should necessarily be under the control of elected bodies. It recomended three tier Panchayat Raj system. Such a system was first introduced in Rajasthan and Andhra in 1959.

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tolerance in politics

Panchayat Raj necessarily means decnetralisation of powers and functions. Does India's political culture encourage decentralisation?. A survey of past few years leads us to the conclusion that there is unwillingness on the part of politicians, to share power. Decentralisation necessarily involves sharing of powers with others, even with those who may not hold the same view as you hold. Tolerance is a necessary ingredient in decentralisation. But, India's political culture has recently exhibited lack of tolerance In 1977, when the Congress Party was defeated at the polls to Loksabha, the Janata Party which was in power in the Union Government, introduced Presidents's Rule in nine States where the Congress Party was in power. The history was repeated in 1980 when the Congress Party which won the elections to Loksabha, introduced President's rule in states where Janata Party was in power. In Mahrashtra, inspite of the constitutional provisions regarding establishment of separate development boards for Vidarbha. Marathwada and the rest of Maharashtra, such establishment was opposed for a number of years

If Panchayat Raj is to be a success, it is essential that our political culture must accept the inevitablenss of tolerance in politics. Many States established Panchayat Raj as a result of Balawantrai Committee Report. Government of India appointed in December 1977, a Committee under the chairmanship of Ashok Mehta, to review the existing situation regarding democratic decentralisation, . and the working of the Panchayat Raj Institutions. from the district to the village level etc " The Committee submitted its report in August, 1978 Following passage from the Report is self explanatory

"The elections to PRI's must be held on time. State Governments should not have the power to postpone elections to PRI's. Timely elections can be assured only when the responsibility of conducting the election is entrusted to the Election Commission.'

"In general there has been disappointment with the working of PRI's which is traced in stronger or milder terms, to a number of inadequaices and failures. PRI's are dominated by economicaly and socially privileged sections of the society and have as such facilitated the emergence of oli garchic forces yielding no benefits to weaker sections. The performance of PRI's has also been vitiated by political factionalism rendering development thrusts either warped or diluted. Corruption, inefficiency, scant regard for procedures, political interference in day to day adminstration, parochial loyalties; motivated action, power concentration instead of service consciousness, all these have limited utility of Panchayat Raj for average villager. (para I. 9) Have things changed since 1978? An honest answer to this question must be given before we give concrete shape to our enthusiasm for Panchayat Raj. Recently Prime Minister Rajiv Gandhi, in his capacity as the President of Indian National Congress observed :—

"Out of every Rs. 100 allocated to development Schemes, Rs. 85 were spent on salaries and buildings and only Rs. 15 on the schemes... we cannot pretend that planning is effective if the roots are not in villages and in the houses of the poorest of the Country."

panchayats playing marginal role

. These observations clearly indicate the failure of development schemes through Panchayat Raj. In Maharashtra Panchayat Raj System was introduced on the recomendation of Naik Committee. There are three tiers namely Zilla Parishads, Panchayat Samitees and Village Panchayats. These bodies were created under an Act passed in 1961. Naik Committee argued persuasively against giving representation to M.L.A.'s and M.P.'s on Zilla Parishads. However, the lust for power ultimately led to the creation of District Planning and Development Councils (DPDC) on which M.L.A.'s and M.P.'s have full representation. These D.P.D.C's are now playing a dominent role and the PRI's only a marginal role. It is suggested in some quarters that State Development Council on the lines of National Development Council should be established in each State, to bring the representatives of PRI's and authorities engaged in development process together.

Another fact of the PRI's is that the party in power in the State looks upon PRI's as instruments for strengthening the roots of the party at the grass roots level. Some critics have pointed out that PRI'S are nothing but a device to distribute political power among the members of the political party in power in the state.

Dr. B.R. Ambedkar was against Panchayati Raj His reason was the caste dominance in villages with the result that the scheduled castes always received ill-treatment at the hands of the advanced castes and classes. Ashok Mehta Committee and P.B. Patel Committee in Maharashtra (1986) have mentioned this aspect. PRI's are dominated by the dominant caste in the district. This is proved by survey conducted by Social scientsts in India. Unfortunately this is a fact of social structure in our country and it has corroded our political, social and economic life. According to me this is the inevitable result of parliamentary democracy accepted by the framers of the constitution. We will have to find an alternative to this system. As far as PRI's are concerned I would make following recommendations: Karnataka Pattern should be adopted in all states in India with following moditicafions :—

election of the representative body

(a) President and Vice-Presidents of Zilla Parishads, Panchayat Samities and heads of the Village Panchayats, should be directly elected by the voters in their respective constituencies.

(b) No candidate should be declared elected unless he

secures 51% of the total votes cast. If there are more than two candidates seeking election to the respective posts and no candidate at the election gets 51% or more votes cast, candidates getting votes on unmber three and downwords should be eliminated and the first two candiates should be asked to contest election next week and a candidate getting highest number of votes would be declared elected. The above method of election would ensure that the heads of PRI's represent atleast 51% of the people in the constitency who voted at the election. This would, to a certain extent, reduce the importane of dominant caste in the area.

The elections to PRI's must be held on time. State Govenments should not have the power to postpone elections to PRI's. Timely elections can be assured only when the responsibility of condusting the election is entrusted to the Election Commission.

The Sarkaria Commission has already recommended reconstruction of the Election Commission. It is submitted that each state should have Election Commissioner. He should be responsible for conducting elections of PRI's. State Governments should have the power only. to suspend any Z.P for a maximum period of six months, on grounds of missmangement etc. But, immediately after suspension, an inquiry committee headed by a judge, to be appointed in consultation with the Chief Justice of the High Court, to conduct an inquiry must be established The report of the Inquiry Committee will be placed before the legilative Assembly of the State and if the Assembly passes a resolution to dissolve the ZP by 2/3 majority of the members present and voting, then alone the ZP should be dissolved; otherwise the suspension will come to an end the ZP will be allowed to complete the tenure under the Act.

erosion of district share

I would like to invite attention of readers to the the observations made by a former I.A.S. Officer of Maharashtra who later became a Minister to the Government. He was speaking in a seminer on Panchayat Raj.

"We wish our subordinates to be competent, but we do not allow them to blossom and flower. We believe and hope that everything should grow under. our shadow. Take for example planning. Maharashtra was the first state in the country to adopt the process of *democratic dencetralisation in planning*. A tremendous amount of exercise of mind and brain and effort was made to delimit the powers and objectives of district and state planning. We decided at that time that the district should have 60% of the total fund available for activities conducted in the districts and the State share should be confined to 40% only. Over the years there has been a regular (some times deliberate, some times incidental) intrusion and erosion of the district share with the result that to-day district planning controls only 25 to 30% of the total plan funds. You argue that some schemes are so important that even though they are in the district, they have to be in the state pool but operated at the district level".

The above passage clearly indicates our political culture. States have been blaming the Union Government for depriving the States of thier financial resources and political powers. In turn, states have been depriving Z P s of their financial resources and powers. Our politicians talk one thing and practise another thing. In this political culture, we are witnessing enthusiasm for Panchayat Raj. I hope it is not a move for winning votes in coming election. If we are really serious about Panchayat Raj, I could recommend an amendment of the Constitution. As a matter of fact a draft bill for amending the constitution was prepared in 1977. It was called the Constitution (Forthy-Third) Ammendment Bill 1977. The provisions of the Bill were supported among others by S.M. Joshi, Indu Bhai Patel, Ram Niwas Mirdha. and E.M.S. Namboodrispad. The text of the Bill is given at the end of the article.

I would like to make one more recommendation. This recommendation must be included in the amendment to the constitution. If we are really serious about

"Another fact of the PRI's is that the party in power in the State looks upon PRI's as instruments for strengthening the roots of the Party at the grass roots level. Some critics have pointed out that PRI's are nothing but a device to distribute political power among the members of the political party in power in the state."

Panchayat Raj, Political Parties which have received Symbols for election from the 'Election Commission', must be prohibited from seeking elections to Z Ps, Panchayat Samitis and Village Panchayats. Let us leave atleast this field to the people to decide for themselves who their representatives should be without any political consideration. Career of politics should be kept away at least from Z Ps. I would, as a matter of fact, recommend that the political parties should be prohibited from seeking elections to Municipal Corporations and Nagar Parishads also.

the amendment bill

Following is the text of the Constitution (Forty-third Amendment Bill) 1977.

The constitution (Forty-Third Amendment bill, 1977)

A

Bill

further to amend the Constitution of India. Be it enacted by parliament in the twenty eight year of the Republic of India as follows:

1. This Act may be called the Constitution (Forty-third Amendment) Act, 1977

2. After Part VIII of the Constitution, the following part shall be inserted, namely:

Part IX
Local Government
(Panchayat Raj)

In this part-

"Council" means a village panchayat, district council, and includes a regional council, where such council is constituted.

In every State, the State Government shall, by public notification, divide each district in that state into as many units of Self-government as the State Government may think fit for the purpose of organizing village panchayat.

(1) In every State, there shall be established—
(a) a village panchayat for each unit of self-government constituted under Article 243-A and
(b) a district council (by whatever name called) for each District.
(2) Without prejudice to the provisions of clause (1) a State Government may constitute regional councils (by whatever name called), each such counil comprising such number of village panchayats within a district as it thinks fit.
(1) The State Government shall make a law to give effect to the provisions of this part
(2) Each Councial shall consist of such number of elected members as may be specified in the law made under clause (1).
(3) The members of the Council shall hold office for a term of four years from the date appointed for the first meeting of the Council after general elections to the Council.
(4) Each such Council shall be a body corporate by the name of (name of the Council) and shall have perpetual succession and a common seal and shall by the said name sue and be sued
(5) The State Government may make rules to provide for—
(a) The machinery, in consulation with the Chief Election Commissioner, for the Superintendence, direction and control of the preparation of electroal rolls for, and the conduct of all elections to the Council;
(b) The delimitation of territorial constituencies for the purpose of elections to the Councils;
(c) The qualifications for voting at such elections and the preparation of electoral rolls therefor;
(d) The qualifications for being elected at such election as members ofthe council;
(e) The conduct of its meeting and its procedure in general; and
(f) All other incidental matters.
(1) The Council shall perform such executive and administrative functions within their respective functions within their repective territorial jurisdiction as the State Government may, by law, confer on them including functions relating to—
(i) The promotion of economic and social development; and
(ii) Implementation of plans relating to economic and social development made by the Central Government or State Government.
(2) The State Government shall, with a view to decentralise its powers endeavour to devolve progressively greater powers and responsibilities on the Councils to enable them to function effectively as institutions of self-government.
(1) The State Government may, by law, authorise a Council to levy and collect in accordance with prescribed prodedure such taxes and fees as the State Government thinks appropriate.
(2) The State Government may also, by law assign to a Council such duties and taxes levied and collected by it, for such purposes. and subject to such conditions as may be specified in the law, and may also make grants-in-aid to such Council.
(3) There shall be constituted for each village panchayat a Panchayat Fund, for each district Councial a District Fund and for each regional Council, if any, a Regional Fund to which shall be credited all moneys received respectively by the village panchayat, district Council and regional Council.
(4) The State Government may make rules for the management of such funds, for the procedure to be followed in respect of payment of money into the said funds, the withdrawal of money therefrom, the custody of money there in and any other matter connected with or ancillary to the matter aforesaid.
(5) The Accounts of the Councils shall be kept in such form as the State Government may prescribe.
(6) The Comptroller and Auditor General shall cause the accounts of the Councils to be audited in such manner as he thinks fit and the reports of the Comptroller and Auditor General shall be submitted to the Governor who shall cause them to be laid before the Legislature of the State.
(1) The State Government shall within two years from the commencement of this part and thereafter at the expiration of every fifth year appoint a commission to review the finanical position of Councils and make recommendations to enable such Councils to function effectively as units of local self-government.
(2) The Governor shall cause the report of commission to be laid before the Legislature of the State together with an explanatory Memorandum as to the action taken thereon'
(1) In respect of areas within the jirisdication of one or more Village panchayats, the State Government may, by law, provide for the Constitution of Courts or Nyaya Panchayats for trial of suits and cases between the parties all of

(Contd. on page 94)



Planning from below

Dr. D.M. Nanjundappa

Development plans are designed to fulfil the needs of the people. Hence, direct involvement of the people in the implementation of these plans is essential. In the absence of no functional agencies, at the district or Taluka or village level, says Dr. Nanjundappa, Vice-Chancellor of Bangalore University, there is a possibility that planning may result into an unintegrated exercise for resources far in excess of availabilities and programmes uncoordinated and unrelated to felt needs. Emphasising the importance of Panchayats he points out that these representative bodies enjoy certain advantages in the matter of locally manageable small projects included in a larger development plan meant for the whole State. The author holds the view that the Panchayati Raj institutions, as local instruments of economic development, offer the local people, "their own socialism" instead of imposing anything like that from outside. He suggests that youth who look towards future, should be brought within the fold of these institutions and be provided with an opportunity to serve the people and demonstrate their capabilities.

PLANNING FOR DEVELOPMENT BECOMES FRAGMENTARY or unintegrated if it lacks spatial dimension. A national plan has to be formulated through a hierarchy of integrated regional or sub-regional or district or state plans. In their preparation, due consideration is to be given to regional or local problems of areas varying widely in land form and use and their potentials, population problems, resources, infrastructures and processing needs. If this is accomplished, the plans of different areas can then be integrated into a mutually consistent state plan.

preparing area plans

There exist many barriers to the introduction of spatial dimension into the process of planning While

PANCHAYATS ... ROOTS OF THE REPUBLIC

the national plans provide the over-all framework of growth rate and sectoral priorities, the state plans that are to go into it have to be worked out on a two-way process. At one end, a critical review must be done of economic and physical situation in order to identify the point at which the state stood particularly with reference to the development of natural resources and infrastructure and existence of regional or sectoral imbalances and the volume, distribution or diversification of employment opportunities This is also the level at which resources that are forthcoming from the Central Government and the manner of their distribution for various programmes at different levels below that of the State are to be assessed In so far as some standardised programmes that are accepted by the Central Planning Authority and the Central Ministries bring in a flow of funds to the state plans, such resource accrual largely determines the choice of programmes irrespective of whether they reflect local needs or not Moreover, if there are no functional agencies at the district or taluka or village level

"Instead of a uniform application of development programmes all over the state irrespective of their suitability to local physio-geographical conditions, area plans are to be prepared after indentifying the strategic variables and examining their interaction."

charged with the power and responsibility for examining the land form and land use of the area, local needs, resources and their inter-relationships, institutional arrangements and potential patterns, planning at the state level has to evolve the programmes and priorities on the basis of its own assessment of the requirements of the state as a whole The result is an unintegrated exercise for resources far in excess of availabilities and programmes uncoordinated, unsynchronised and unrelated to felt needs.

To overcome these defects, planning from above is to be matched by a process of planning from below. That is, planning is to be rationalised by efforts to prepare the village, taluka block or district plans Instead of a uniform application of development programmes all over the state irrespective of their suitability to local physio-geographical conditions. area plans are to be prepared after indentifying the strategic variables and examining their interaction Area plans make the people to identify the programmes meant for their locality and this would lead to the concentrating of the programmes and invoking of necessary co-operation from the people in implementation

local, democratic and efficient

Panchayat Raj Institutions offer an institutional innovation for planning from below. They give a set of inter-connected democratic and popular institutions at the village, block and district levels in which representatives of the people on the village panchayats, panchayat Samitis and Zilla Parishads function with the official of administrative and developing agencies of the Government as a team for the development of the area that falls within their jurisdiction. There is a great stress on developmental role of these institutions. In the context of wide-spread poverty and low level of social services, panchayat raj without development would be a barren and sterile concept.

There are two consequences of this experiment. One is that it supplies an interlinked institutional structure together with decentralisation through delegation as well as devolution of powers and functions The second is that it supplies institutions which are primarily units of local government whose important objective is economic and social development

The distinguishing features of these Institutions are: Local, Democratic and Efficient which offer the kernel of the whole problem. It should be local because it must be closer to the grass roots, the common people and their problems; it should be democratic because there should be a place in it not only for the few educated or elite but for all the people whose respect it can enjoy by its affinity; it must be efficient because operating as it does from a scarcity base, benefits from its programme should be maximised with minimum resource spending.

Local Government is closer to the people than State or Central Governments Identification of the needs and execution of the programmes are so much easier and prompt with administrative units at the local level The educational value of the local bodies have always been there; their broad base secured by the popular representation sustains and consolidates the achievements.

The Panchayat Raj Institutions enjoy certain technical advantages in the matter of locally manageable small projects included in a development plan. They make developmental efforts economically easier because of the short gestation period of the small works. They promote undertaking of the secondary programmes which are complementary to major projects executed at the higher levels. They offer a device for planning and provide a structural link to the projects of higher importance. In short, the success of the local bodies as instruments of economic development depends on the creating of a representative and democratic agency which will supply the local interest, supervision and care necessary to ensure that expenditure on local projects conforms to the needs and wishes of the locality and

investing it with adequate power and assigning to it appropriate finances

their own socialism

It is therefore clear that a high degree of autonomy is essential for performing these functions. readjusting in accordance with the peoples desires and locally changing needs, while conforming to the accepted national pattern. For these reasons in a sense we may say that the Panchayat Raj Institutions as local instruments of economic development offer the people "Their own socialism" instead of imposing anything like that from outside.

Following the Balawantrai committee report, several states adopted the panchayat raj system. Most of them failed owing to the fact that decentralised planning did not take place and leadership did not develop. There was more of reliance on the bureaucracy for achieving the developmental objectives. Change-orientation and result-orientation failed to percolate into the system.

Of late, following the Ashok Mehta committee report, some states have tried to restructure the panchayat raj system. Here again, it appears that emphasis is on fulfilling a democratic principle like the representatives of the people being elected rather than the **right type of leaders being elected on the basis of** their professional knowledge and commitment for rural development Then, the question which arises is whether the structure of panchayat raj system which is based even on the Ashok Mehta committee report answers squarely the needs of leadership

the Karnataka and Andhra models

The Karnataka model is more radical than those adopted by other states. The reason is that in Karnataka, instead of allowing two streams of development, a single stream is established in the sense that all plan schemes identified as falling within the districts and the local sector and the non-plan items have been transferred to the newly formed zilla parishads and mandal panchayats

In Karnataka and Andhra Pradesh, mandal panchayats are formed for a group of villages though the population size varies from 8,000 to 12,000 in Karnataka against 35,000 to 50,000 in Andhra Pradesh. In the case of Malnad districts of Karnataka, the population criterion is 4,000

At the grass roots level the village panchayat has been retained in Andhara Pradesh while in Karnataka it is replaced by the gram sabha. As for the block and taluk level set-up, the existing panchayat samiti has been abolished in Andhra Pradesh while it has been retained in Karnataka but without powers.

At the district level in Karnataka, the earlier district development council under the chairmanship of the deputy commissioner has been replaced by the zilla parishad which is now headed by the elected representative known as the adhyaksha. In Andhra Pradesh. besides the zillâ praja parishad. there is another level committee (zilla abhivrudhi sameeksha **mandali) under the chairmanship of a state minister to** act as an apex body at the district level. It mainly consists of district legislators (MLA, MLC and MP and experts nominated by the state governments). The chairman of the zilla praja parishad is its vice-chairman while the collector is its ex-officio secretary.

As for the membership of these bodies there is wide variation between the two states. Andhra Pradesh opted for ex-officio membership against the directly elected membership in Karnataka. In Andhra Pradesh the members of the mandal parishad and zilla parishad are ex-officio members. The chairman is directly elected as in Karnataka.

The system of direct election to these positions is a major depature from the earlier system. In Karnataka 25 and 18 per cent of the seats in these institutions are reserved for women and the scheduled castes and tribes, respectively Also a senior officer of the administrative service has been posted as the chief executive officer of the zilla parishad. In Andhara Pradesh, only an officer junior to a collector, known as the district development officer, works under the **overall supervision of the Chairman of the zilla** parishad. Besides, the district collector has a say in the affairs of the panchayat raj institution. In Karnataka it is not so.

"In the context of wide-spread poverty and low level of social services, panchayat raj without development would be a barren and sterile concept."

Also, many development departments, particularly the DRDA, are still outside the purview of the zilla parishad in Andhara Pradesh. In Karnataka the DRDA has been merged with the zilla parishad and nearly 45 per cent of the state plan resources are transferred to the zilla parishad and mandal panchayats.

For making the panchayat raj institution function effectively, the demarcation of the sectors namely, the zilla sector or panchayat or mandal panchayat sector and the developmental schemes are to be identified. In the Karnataka model schemes transferred to Zilla Parishad for which they will be responsible in the areas covering agriculture, horticulture, soil conservation, animal husbandry, fisheries, forest, rural development, minor irrigation, roads and bridges, nutrition, primary and secondary education, Indian system of medicine, rural health, primary health centre buildings, family welfare, welfare of weaker **sections including Scheduled Castes/Scheduled**

Tribes, stipendary employment scheme for unemployed, social welfare, housing, village and small industries, cooperation, civil supplies, sports and youth services etc. have been listed. Similarly corresponding to the powers and functions of mandal panchayat, schemes transferred to the mandal panchayats for which they will be responsible have been notified and they cover areas like adult education, rural water supply, housing, welfare of SC/ST, agriculture, rural development, roads and bridges, welfare of backward classes and minorities, special component plan, nutrition, horticulture, soil conservation, animal husbandry fisheries, forests, cooperation, sericulture, sports and youth services.

"Local Government is closer to the people than State or Central Governments. Identification of the need and execution of the programmes are so much easier and prompt with administrative units at the local level."

For transfer of funds from the state to the zilla parishads, an objective criteria giving weightage to population and backwardness has been developed. Similarly for allocation of plan funds which are to be earmarked for the mandal panchayats, objective indicators covering population, area of the mandal, dry land area, agricultural labour population, percapita resources raised have been considered.

It is not intended here to go into the merits and demerits of this new model in the context of developing leadership. But it is irrelevant to the theme in so far as certain inferences do follow from the set-up.

No doubt, in the Karnataka model the zilla parishads have been given the status of a mini-government but the weakness is that at the mandal level there is no administrative machinery which can execute the programmes for rural development in the area The mandal panchayats have to depend on the zilla parishad machinery

transformation in bureaucracy

Against this background, the role of bureaucracy is interfaced with promoting leadership for development. It is no secret that bureaucrats have often felt that the political decision-maker lacks expertise or skill and is not fully aware of the structure and policy. Therefore, the leadership leaves much to be desired and this has to be made up by bureaucratic advice. This may not be tenable in all cases.

The bureaucratic phenomena has grown over the years covering several new state activities which are burgeoning.

In the context of decentralised planning and developing leadership for development at the different levels, what kind of transformation the bureaucracy has to undergo is yet to get crystallised. Nevertheless, it should be noted that wherever bureaucracy has been of the type which is at the "receiving end", the response to development has been more encouraging unlike most other scenarios where bureaucracy is at the "giving end"

need for trained planning machinery

Under decentralised planning, for the mandal panchayats to play the role effectively in the overall framework of the zilla parishad set-up, it is very important that the plan formulation for various schemes entrusted to them is done on a scientific basis. As the plans are to be integrated spatially and sectorally, a well trained planning machinery is needed. In some of the states, particularly, in Karnataka, the planning machinery is well established with functional divisions like District and Regional Planning, Manpower Planning, Evaluation Perspective Planning, Plan Monitoring, Plan Finances and Resources and the like. In fact, for each one of the zilla parishads there is a Chief Planning Officer (a technical officer with required skills) assisted by a manpower planner, project evaluation expert, cartographer, economic analyst, statistician and the like. This group is further assisted by the State level District Planning Machinery. Wherever such a machinery does not exist, it is essential that immediate steps are taken to provide it.

The other aspect of the training is with reference to the members of the zilla parishads and the mandal panchayats. No doubt, the members have the field knowledge and some of them might even be those who can analyse the problems satisfactorily. But one is not sure of the planning skills of people who get elected.

"It is no secret that bureaucrats have often felt that the political decision-maker lacks expertise of skill and is not fully aware of the structure and policy. Therefore, the leadership leaves much to be desired and this has to be made up by bureaucratic advice. This may not be tenable in all cases."

Therefore, both the elected representatives and the officials require intensive training in planning at the mandal level and at the district level for drawing up of an action plan for implementation. Such training can be institution-based and also combined with on-the-job training. In certain situations under the panchayat raj, where efforts are made to involve the weaker sections and the masses in general, the system is confronted with mass illiteracy among the people. Therefore, the top-most priority will have to be assigned for the removal of illiteracy both through crash schemes and through functional literacy programmes. Audio-visual aids have to be literally used and the resources now available in the

universities, colleges, secondary schools, voluntary organisations and champion volunteers in villages must be fully utilised for mounting a mass Literacy Movement. The NCC can easily be brought into this frame-work.

sanctioning power for schemes

Decentralised planning under the panchayat raj set up has also brought with it the decentralisation of the finances and the delegation of the powers. However, in actual implementation, there are certain problems. As for the delegation of powers, the heads of the departments may still try to have some reservations. It should, however, be made clear that the mandal panchayats and the zilla parishads have full powers to sanction the schemes and also release the funds. Under no circumstances, should there be any occasion for referring, all over again, the schemes for sanction to the state level.

Often, an issue is raised that mandal panchayats and the zilla parishads depend solely upon the funds devolved from the Central Government or the State Government. They do not raise resources on their own for development programmes. Under the panchayat raj set up, there should be a change in the very process of financial approvals at the Planning Commission level itself. When the State plan schemes are finalised, the Planning Commission should concentrate on major irrigation, power projects, major transport and major industries and the rest of the resources covering both the central assistance and the state resources are to be shown as untied for devolution in turn to zilla parishads and the mandal panchayats within the state. Also, there is a need for pooling of resources at the district level which would imply that all central sector schemes for which funds are released by the centre have to be pooled at the zilla parishads level and the utilisation of this money should be with reference to the zilla parishads plans and the mandal parishads plans drawn by the planning machinery. This, in no way contradicts the responsibility for accounting of expenditures, but, it facilitates the establishing of proper linkages among different schemes.

community resource mobilisation

The question that the Panchayat Raj institutions do not raise enough funds must be answered squarely. There was a time when the local sector was untapped by the tax instruments. Now, it is found that practically, all items are touched by the state tax policy and there is very little left for the local tax handles. The village houses or the village shandies no longer offer an attractive resource basis. Again, the pricing of agricultural commodities is yet to become satisfactory. However, there can be a matching device whereby in the plan schemes 75 or 90 per cent of the funds are offered and the panchayat raj institutions can be made to provide the matching contribution of 10 to 25 per cent. Some such incentive would be useful in proddding panchayat raj institutions to go in for community resource mobilisation for development purposes.

A major hurdle to be faced is the conflict between officials and the non-officials. There is a greater tendency on the part of the local members including the officials to succumb to great pressures which may lead to wrong priorities and improper choice of locations for the schemes. Often the officials and the non-officials may clash with each other, obviously, due to lack of proper understanding of the planning process, the priorities, funding and their relative responsibilities and roles. It may also be due to the existence of a 'superior-inferior relationship' feeling obtaining among the officials and non-officials. These have to be removed by education and training. It may be necessary to establish a machinery at the state or the district level consisting of senior officers and the top brass of the political parties to rush to such mandal panchayats or zilla parishads where conflicts manifest.

"The youth have a more open mind than others. It is for the obvious reason that they are not committed to past and that they are free to take a look at the future and determine what they can do. Therefore, they should be brought within the democratic functioning of these institutions."

They should guide them immediately and sort out the problems. If this does not happen bitterness accumulates and that can strike at the very roots of the system. It is in this context, that often it is reiterated that with decentralised planning there is no need for large number of senior-most officials to be at the state Secretariat. Their services should become available at the district and even at the mandal panchayat levels; without adding to expenditures on administration, the re-deployment of the senior level staff can be profitably done. Finally, for panchayat raj to succeed, it is the leadership which would be of paramount importance. This applies to the officials and to the non-officials.

required : a measure of control

To make panchayat raj institutions mass movement, **there should be a voluntary curb to ensure that no one** continues in position in such institutions for more than a specific period say 3-6 years. Careful attention is needed in this area to evolve appropriate legal and other framework.

The Youth have a more open mind than others. It is for the obvious reason that they are not committed to past and that they are free to take a look at the future and determine what they can do. Therefore, they

should be brought within the democratic functioning of these institutions. More over the leaders should realise that they are there to serve the people but not to 'get rich in the sleep' as it were. They ought to get reminded always that they are the servants of society. As Swamy Vivekananda said "the days for the **privileges and exclusive claims are gone**".

Some controls are required for both. In the case of administrators, the measure of control has to be from the higher echelons of the bureaucratic set-up. For the political decision-maker, the control is to come from the higher level leaders of the political party.

A clear vision and commitment to serve the poor and the undeveloped areas must be present. This calls for the inculcating of higher values and it is in this area that panchayat raj runs the great risks as in other institutions. There are however, no soft options. ■■

(Contd. from page 60)

The J&K Bill has generated considerable interest among the advocates of decentralisation. It is hailed as a Bill imaginatively conceived which will infuse into the people of J&K a new spirit of self-reliance and self-confidence. The idea of panchayati adalat is novel and bold.

conclusion

The second phase of panchayati raj has disturbed the earlier "balance" between officials and non-officials. Consequently, a process of trial and error, a process of adjustment is inevitable in order to appreciate the view points of the official and non-official sides. It took some time in West Bengal to understand the new ethos.

In Karnataka, serious questions are raised whether bureaucracy will throttle the P.R. initiative. Are they not hurt because the rural folks have become their masters under the new dispensation? Another question which attracts our attention is, will the inclusion of MPs, MLAs and MLCs in the local bodies help growth of local leadership? It has been argued that their presence is meant to maintain link between Zilla Parishad and policy making bodies at the State and union government level. The Ashok Mehta Committee had, it may be recalled here, suggested inclusion of nominees of only bigger municipalities, persons with special interest in rural development and university teachers in social sciences; and excluded MPs and MLAs because they carry a lot of weight and their direct association with Z.P. will inhibit the emergence of local leadership.

In his dissent note to Ashok Mehta Committee report, E.M.S. Namboodiripad had gone to the extent of saying that even the presence of non-elected members might imply that ZP is a body concerned with development alone; thus relegating the political and democratic dimensions to background.

Total freedom from the strangleholds of Central and State level political leadership, non-elected members and officialdom is a prerequisite for effective functioning of panchayati raj.

Political interference over the heads of the Panchayat bodies is most dreaded aspect of present-day politics. It will be milder if the Z.P. and mandals belong to same party but severe if they belong to the opposition. One such issue which had already come up is the question of

"It is not desirable to vest the powers of the supersession and dissolution directly in government's hands. The central Issue for a functioning democracy at the lowest level is that the local level institutions should not exist at the sweet-will and pleasure of the government in power."

Mandal reservations in districts in Andhra Pradesh. Charges have been levelled in some districts that the reservations were decided not on the basis of population of SCs and STs in a district, but on the political interests of the ruling party.

It is not desirable to vest the powers of the supersession and dissolution directly in government's hands. The central issue for a functioning democracy at the lowest level is that the local level institutions should not exist at the sweet-will and pleasure of the government in power. They should be autonomous and guided by the larger interests of the local community within the overall framework of national interest. It does not mean that there should not be any check and balance. These controls should not be from above, but built in horizontally, by people themselves. ■■■

Village Panchayats

True democracy cannot be worked by twenty men sitting at the centre. It has to be worked from below by the people of every village....

In my opinion, there is no law which can stop a Panchayat from functioning wherever the people want it. Every group (of villages) or its member can have the Panchayat system whether the rest of India has it or not. True rights come as a result of duty done. No one can snatch away such rights. The Panchayat is there to serve the people. In the true democracy of India, the unit is the village. Even if one village wants Panchayat Raj, which is called republic in English, no one can stop it.

— Mahatma Gandhi, Harijan, 18-1-48, p. 519.



Decentralisation the Nagaland way !

Dr. B.N. Sahay

Nagaland has embarked on an experiment of decentralisation of power by directly providing plan funds to all the villages thereby increasing their competence to plan and implement development schemes. The author, who visited the State sometime ago, saw for himself this experiment being conducted there. He speaks highly of the successful cooperative partnership between the Government and the people for all-round development in every village irrespective of its location. Especially, he commends the role of Village Development Councils in which peoples of both traditional mind and modern outlook sit together to plan and decide their own course of action of growth and development. The author feels, the Nagaland approach is worth experimenting in other hill and tribal areas, particulary in the tribal areas of the north-eastern region.

AMONGST THE SUCCESSFUL EXPERIMENTS of decentralisation of power and responsibility, the arrangements of the Government of Nagaland for directly providing plan funds to all the villages and thereby launching a process of gradually increasing planning and implementation competence at the village level deserve special mention. An assessment of these arrangements has been made in this paper with the hope that the lessons learnt are not lost sight of while planning and administering the rural development programmes with the full involvement of people.

origin

Each village in Nagaland today has a Village Council and a Village Development Board—corresponding to a regulating and an executive body. The traditional institution of the Village Council (corresponding to the statutory *Gram Panchayat)* was given a legal status in 1968. Subsequently, in 1978, the traditional Village Councils were given powers to deal with development matters. As a result, a Village Development Board (VDB) was created by the Village Council of each village

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during 1980 under the VDB Rules, 1980 framed under the Village and Area Councils Act of 1978. The main duties of the VDBs are laid down in Rule 3 of the VDB Rules, 1980 as under :

"The VDB shall... formulate schemes, programmes.. for the development and progress of the Village or individuals in the village ... either using the *Village Community or other funds.*"

structure

A VDB consists of members representing all clans *(Khels)* appointed by the Village Council, including at least one woman. From amongst them one literate member is chosen as the Secretary— the key functionary. The chairmanship of the VDBs lies outside the village in the hand of the Deputy Commissioner who acts essentially as a moderator and has the power to exercise a veto over drawal of money from the VDBs bank accounts. The structure and functions of this organisation are given in Rule 4 read with Rules 5 to 7 and 20 VDB Rules, 1980 (Annexure I).

resources

In addition to resources, such as, labour, material, and incomes from community owned assets, at present there are three main components of the monetary resources of a VDB as under:

(1) Monies raised by the Community through household contributions, community works, donations, etc;

(2) A grant from the State Government matching equally that part of (1) above which is invested by a VDB in a long-term (5 years or more) *fixed deposits* subject to a limit of Rs. 75,000. This investment generates an annual interest and facilitates credit to a VDB for taking up development activities. These fixed deposits constitute the *'development capital'* of a village and provides *financial security* even to the remotest villages; and

(3) Annual recurring grant-in-aid by the State Government at the rate of Rs. 300/- per household subject to a maximum grant of Rs. 1,50,000/- and a minimum of Rs. 15,000/- per VDB. This grant-in-aid becomes the major component of the *Village Plan size.* This grant-in-aid programme is implemented in accordance with the procedures prescribed by the State Government.

activities

Based on the felt-needs of the village (as reflected by the schemes completed by the VDBs), the State Government have approved 29 works/schemes (in addition to any other experimental activity suggested by a VDB) from which a VDB chooses its own schemes to be included in the *Annual Village Plan* (Annexure II) under the grants-in-aid programme mentioned above.

villages visited

Two villages, namely, JOTSOMA in Kohima district and CHUCHUYIMLANG in Mokokchung District were visited and detailed discussions with the members of the Village Councils and VDBs were held. I happened to visit *Jotsoma* in 1981 when the VDBs had just been formed. The current visit was after a lapse of seven years. The moment I entered the village, I was startled to discover that the *"village had chosen progress"*. The general description of the two villages is as under:

(1) *JOTSOMA:* Inhabited by the *Angami Nagas,* the village is located at an altitude of about 5000 feet and a distance of 12 Kilometers (north-west) from Kohima, the district and the block headquarters. There are about 300 households (population being about 1800) most of which cultivate paddy in permanent terraces on the hill-slopes. Some of the households also practise 'slash and burn type' of shifting cultivation popularly known as *JHUM* and grow maize, millets, etc. A few households, however, also go for raising crops, such as millets, potatoes and chillies *under a permanent forest of ALDER trees* which are merely pollarded (and *not cut down)* for this purpose. Besides these cultivator households, there are some who are employed in government jobs. The literacy percentage of the village is little higher than the state's average which is around 40 per cent. There are primary schools right in the village in addition to a Middle-cum-High School located at a distance of about a Kilometer. The village has a church, big community hall, piped water supply facility and is covered by a Health Sub-centre. The village is well connected by an all-weather road.

(2)*CHUCHUYIMLANG:* Inhabited by *Nagas* the village is situated at an altitude of about 4000 feet and is about 32 Kilometers (north) from Mokokchung— the district headquarters. There are about 500 households (about 3000 population) most of which practise 'slash and burn type of shifting cultivation *(JHUM)* and raise crops like paddy, maize, and millets. A few households have, however, taken up coffee cultivation recently. It was gathered that due to the inherent low productivity in *JHUM* cultivation, quite a sizeable number of people of this village have migrated (with linkages in the village for the satisfaction of socio-economic needs) to Mokokchung, Dimapur and Kohima towns for earning their livelihood. The literacy percentage of the village is higher than the state's average. There are primary schools in the village and a Middle-cum-High school located at a distance of about 3 Kilometers. The village has a newly constructed Church, a big community hall, water supply facility, and is covered by a Health sub-centre. Although the village is located by the side of the State Highway, the connecting approach road is still *Katcha.*

VDBs in action

While the VDB of JOTSOMA was formed in 1981, that of CHUCHUYIMLANG was constituted during 1980. The schemes planned and taken up to completion under the Grants-in-aid programme and the matching grant scheme in both the villages are given below:

(1) *JOTSOMA:* During the period 1980-81 to 1987-88, the VDB received a total grant-in-aid of about Rs. 4.75

lakhs through which about 50 schemes were taken up to completion. Some of the major ones are: a big community (Council) hall, community granary, community rice mills (run by the women), community fishery pond, Women society building, resting-sheds on way to cultivation sites, kitchen garden by the women, suspension bridges over the streams, children's home, social forestry, etcetera and maintenance of assets created. In addition, the VDB also received the maximum permissible matching grant of Rs. 75,000/-. Thus, the *permanent development capital* of the VDB is Rs. 1.5 lakhs in the form of fixed deposits with the Bank. It was gathered that the VDB so far drew a loan of Rs. 1.5 lakhs for the construction of a building at Dimapur (70 Kms. from the village) which is now fetching the community a monthly income of Rs. 5000/-. This is *a significant example where the profits of an urban investment by the villagers themselves are ploughed back to the village community.* The above bank loan has been repaid and the balance income is being reinvested into extending the aforesaid building.

(2) *CHUCHUYIMLANG:* Similarly, from 1980-81 to 1987-88, the VDB received a total amount of about Rs. 6 lakhs under the Grants-in aid programmes of the State Government. With this assistance, the VDB planned and completed 32 schemes. Some of the important ones include community granary, purchase of buffer stock of paddy, *inter-Khel* (like a Mohalla) roads and masonry foot-paths, pit-latrines, link roads between village and cultivation sites, banana farm of the women society, community wells/tanks (on perennial streams around the village), culverts and suspension bridges, etcetera, and maintenance of assets created. During the same period, the VDB also received a matching grant of Rs. 75 thousand enabling the building up of a *permanent development capital* of Rs. 1.5 lakhs. lakhs. Against this amount as security, the VDB has, so far, taken a loan of Rs. 70,000/- for taking up various development/ productive activities in favour of the community as also individual households.

highlights of VDB action

The above discussion reveals that:

(1) A lot of development work directly leading to an improvement in the *Quality of Life* could be taken up to completion because the choice of schemes was strictly in accord with the people's own perception of their problems and needs;

(2) *Left to themselves,* people choose to satisfy their infrastructural and immediate physical needs (security against hunger, for example) first followed by the satisfaction of the needs to diversify/increase producation; and

(3) Given an *assured opportunity,* people can create assets of great value and utility with minimum expenditure. This is because people get motivated to contribute labour and material when it comes to the satisfaction of their felt-needs.

significance of the VDB approach

The preceding paragraphs highlight the fact that there has been *a successful cooperative partnership between the Government and the people for all round development of the people living in every village irrespective of its location.* This dream could become a reality because:

(1) The traditional political village institutions could be appreciated and a happy synthesis between the 'Old' and the 'New' ideas, values, and institutions was harmoniously established. This saved the community from the impending tension and conflict situations since a clash was averted between the traditional village authorities (in the hands of the Village Council elders) which preferred cautious change and the younger educated generation which wanted rapid change. Perhaps, there is no alternative other than a forum like the VDB where the 'Old' and the 'New' can sit together to plan and decide their own course of action for growth and development.

(2) The approach to the people and their problems is one of the fundamental principles enunciated by our late Prime Minister, Pandit Jawaharlal Nehru that *people should develop along the lines of their own genius and we should not impose anything on them.* It appears that, by and large, the Government machinery have internalised this principle as evidenced by their interaction with the people during our visit. Their approach to the people was like a friend, philosopher, and guide and not like an official, elder brother or a preacher;

(3) The development process was undertaken through, *and not in rivalry with,* the traditional socio-cultural and economic institutions. This was accomplished without over-administering the area or overwhelming the people with a multiplicity of schemes. In fact, through a concept of 'joint management', an organic linkage was forged between the 'Old' and the 'New' (or the traditional and the emergent) on the one hand, and between the Village and the Collector as the prime representative of the Government, on the other;

(4) Through a well thought out and *easily comprehensible* system of inter-personal communication, opportunities were afforded to the officials to reorient their way of thinking, on the one hand, and to the village leadership to acquire planning, administrative and managerial competence, on the other. This was effected through the VDBs Secretaries and Village Council Chairmen, Training Camps-cum-Conferences held frequently at the district headquarters. A sense of confidence and determination to accomplish the goal on the part of the people was obvious. One could observe the quality of *human character* that is now emerging; and

(5) *The openness of this system* of funds administration and of undertaking developmental activities at the village level has automatically led to the emergence of an effective inbuilt system of vigilance.

replicability

The question now is whether or not the Nagaland VDB approach can be replicated in other parts of the country, particularly when the levels of development and the socio-cultural factors are so diverse. The reply to this question seems to be in the affirmative. If:

(1) This approach is tried in similar socio-cultural and economic milieus including presence of a traditional political system. Many of our hill/tribal areas may adopt this approach with necessary modifications. Particularly, the tribal areas in the north-east may try out this approach;
(2) The States where *Gram Panchayats* are functioning may also try out this approach. In order to give a practical shape to it, a closer look at the structure of the *Gram Panchayat* may be necessary, particularly with a view to incorporating the concept of *joint management* or *cooperative partnership, and*
(3) In the states where *Gram Panchayats* are not functioning or are defunct, steps should be first taken to revitalise them quickly *so that people are not denied the opportunity* to participate in the planning process.

It goes without saying that democracy in our country has come to stay. What is important is that the *relationship between Democracy and Development must be institutionalised at the level of the people* by forging a partnership between the *Gram Panchayats* and the Government machinery. This only can enable a satisfactory and *equitable system of sharing the gains and pains of development*

EXTRACTS FROM VILLAGE DEVELOPMENT BOARDS MODEL RULES, 1980

Rules....
Composition

4. The Members of the Village Development Board shall be chosen by the Village Council The tenure of members shall be 3 years unless decided otherwise by the Village Council by a resolution. The members may include members of the Village Council or those who are ineligible to be chosen as or for being members of the Village Council by virtue of their age, or by virtue of tradition and custom At least one woman shall be a member of the Board representing all the women in the village Government servants can be chosen as members with the permission of the Government.

5. A member of the Village Development Board may be replaced by a resolution of the Village Council for reasons to be recorded in the Resolution.

6. The Deputy Commissioner shall be ex-officio Chairman of the Village Development Board.

7. The Village Development Board Members shall select one among themselves as the Secretary who shall be a person who is literate

20 Whenever the Board passes a resulution authorising the Secretary to withdraw any amount from the Bank Account, 3 copies of such a resolution signed by the VDB Members present in the meeting shall be prepared by the Secretary and he shall personally meet the Chairman with these 3 copies.

When the Chairman receives these 3 copies, he shall examine them If the Chairman finds nothing wrong, he shall record his approval on all the 3 copies. Thereafter, one copy will be attached to the cheque. The second copy will remain in the Chairman's office and the third copy will be brought back to the village by the Secretary to be read out in the next month's public meeting.

Secondly, if the Chairman has some doubts, but not serious, he shall record his remarks on the copy of the resolution to be kept in his office and record his approval on the other 2 copies. In such an event, the Chairman shall send the copies of his remarks to the VDB Members and the Chairman of the Village Council for their information.

Thirdly if the Chairman has serious doubts about the propriety of the resolution he may return the resolution with his remarks for reconsideration or fix a date for an open public meeting in the village and put the matter before the public

LIST OF APPROVED SCHEMES FOR EXECUTION OF VDBs

1. Fruit Juice Extraction Units.
2. Community Household Electrification
3. Community Piggery.
4. Community Pigglings Production
5. Community Poultry.
6. Community Fuelwood Production
7. Community Bakery.
8. Community Charcoal Production
9. Community Granary
10. Community Fishery
11. Community Shawl Weaving.
12. Community Fingerlings Raising
13. Community Silk Worm Production
14. Community Salt Making
15. Community Horticulture
16. Community Vegetable Growing
17. Community Cold Storage.
18. Community Bee Production
19. School Building
20. Dairy
21. Improved Housing
22. Beef Cattle Rearing
23. Fair Price Shops in Feasible Areas.
24. Approach Road only in Backward Areas to link villages to state or National Highways.
25. Community Tree Plantation in Catchment Areas
26. Water Resources.
27. Rice Mill
28. Bio-Gas Plants.
29. Public wells or Reservoirs.

PLUS

ANY EXPERIMENTAL SCHEME THAT WOULD ENHANCE OR IMPROVE THE OVERALL PROCESS OF RURAL DEVELOPMENT.



Panchayati Raj—commitment or cajolery ?

Balraj Mehta

In the opinion of the author, a noted journalist and a prolific writer on economic affairs, the concept of village democracy as evisioned by Mahatma Gandhi has become irrelevant today in the context of the development of socio-economic and political processes at work in the country after gaining independence. He argues that although the five-year development plans were drawn with increasing skill and sophistication, their implementation was not supported by the mobilisation of the vast human resources available in the country, nor by a well-organised people-oriented institutional infrastructure. Hence, he concludes, the desired results could not be achieved, and whatever development has taken place, the gains therefrom have tended to be monopolised by thin upper stratum, leaving the mass of the people in the cold. The author holds the view that basic socio-economic reforms and a structure of popular institutions at district level and below, which are accountable and responsive to the people, have to be introduced first. Otherwise, he says, vested interests would reap larger benefits and enhance the area of their influence in collusion with the beaurocratic machinery, thereby depriving the masses of their minimum rights. In dealing with the new approach to management techniques, the author has expressed doubts about their effectiveness and tells that Panchayati Raj does not fit into the frame of such schemes.

The revival of the talk of Panchayati Raj, decentralisation of administration and popular participation in the development process may appear to be very appealing but is as yet hardly enlightening. That this talk started somewhere gingerly and has become strident in the wake of conflict of interests in society and tension in polity surfacing rather forcefully and dramatically is by itself quite intriguing. This is not an altogether novel phenomenon, however. It has been observed from time to time during similar

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circumstances in the past to simply disappear without leaving behind any noteworthy impression once the entrenched political-power structure was able to manage and regulate the turbulence it might have been facing at any point of time, regain a measure of balance and stability and assert and enforce its authority. The dominant impulse has indeed always tended to be towards greater and greater concentration of power and centralisation of the administrative and repressive apparatus of the State

distribution of assets

This has not been wholly fortuitous. It is not possible, after, all, for the political-power superstructure to be starkly out of alignment with its economic and social base. The political order, in the final analysis, has to find balance and stability by resting firmly on its material foundations which in India, the empty and deceptive talk of the Indian brand of socialism notwithstanding, is governed by the sanctity of private property and rights of owners of capital and land. While the exercise of political power is duly regulated by some checks and balances enshrined in the Indian Constitution, there can be no infringement of the overriding principle of the right to property which is absolute and is subject to no reservation at all.

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This has implications for the political order, the administrative set-up, the management of popular aspirations and respect for the democratic rights of the mass of people in a society where only a small minority enjoys the privilege of owning material assets, above all capital and land. The vast majority of the Indian people with no or little assets have to eke out existence by sale of labour power for wages which are neither adequate nor fair. A system or arrangement under which political and administrative power is proposed to be truly and effectively decentralised to what is romantically but euphemistically called the "grass roots" level would tend to be an anachronism in the prevailing extreme inequity in the distribution of assets and income which is among the most galling in the world. The periodic talk about Panchayati Raj and decentralisation of administration and the excitement that it generates among the elite in these conditions cannot be anything but a ploy which carries neither conviction nor credibility.

Some people talk nostalgically about the scheme of things which the Father of the Nation, Mahatma Gandhi, favoured. His vision of village democracy or Panchayati Raj intertwined with the concept of village self-sufficiency so far at least as satisfaction of the basic needs of the masses of the people in rural society is concerned. This has become totally irrelevant in the context of the development of socio-economic and political processes at work in India after gaining political freedom. The drive for creating a unified all-India market as the basis for gainful economic activity emphasises this position.

The problem got further aggravated, to begin with, not only by the reluctance, after political power had been transferred to Indian hands, to introduce radical reforms in the socio-economic structure, especially feudal land relations, inherited from the colonial era. There has been, in addition, an unreserved reliance on the part of the political authority on the administrative, punitive and security organs and institutions put in place and left behind by the colonial rulers. Combined with the failure to carry out tasks which must receive first priority in the programme of a national liberation movement such as the eredication of illiteracy and organisation of basic health and extension services, investment plans for the development and modernisation of the economy and society, however sophisticated and well-planned, were bound to be vitiated and stunted.

philosophy of gradualism

There are indeed a set of basic reforms of the socio-economic structure and essential programmes of mass welfare which had to be taken, up on a crash basis when the triumphant national movement and its leadership still enjoyed authority and capacity for mass mobilisation to carry them out without involving high economic and social costs. The carrying out of such tasks is simply not amenable to the philosophy of gradualism and legalistic measures. It is no wonder, therefore, that the priority programmes of social change, cultural renaissance and mass participation in democratic polity still remain unfinished forty years after gaining political freedom and there is no sign on the horizon that they are any nearer completion by investment plans which have been or are being

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undertaken both by public authority and private enterprise.

The growth process in the primary (agriculture), secondary (industrial) and tertiary (services) sectors of the economy in India in contrast to the all-round integrated development of the economy and society, have suffered from large lags and shortfalls as well as distortions not because the successive five year development plans were bad. They were actually drawn up with increasing skill and sophistication. What has gone wrong with their implementation is that they were not supported by the mobilisation of the vast human resources in the country and a wellorganised, people-oriented institutional infrastructure. The result, therefore, has been that whatever development has taken, the gains have tended to be monopolised by a thin upper stratum, leaving the mass of the people in the cold. By the mid-sixties, therefore, development planning as originally conceived was already in disarray. Subsequently, populist measures and gestures were an apology for development planning. The five year plans have since tended to be exercises in window-dressing rather than serious commitments in terms of policy or implementation No wonder, by early eighties and more so since the mid-eighties, plan priorities have been turned upside down and the public authority has preferred to shed as fast as it could its development role and responsibilities with the fond hope that private enterprise wich is facilely believed to be more efficient than public enterprise will deliver the goods.

The questions relating to Panchayati Raj, responsive administration and mass participation in the development process have in these circumstances thrown up some rather odd and even disconcerting features. They have come under such contrary pulls and pressures that their thrust and meaning have tended to be fudged and befuddled. It is simply not possible to square the talk for decentralisation with passionate cries for preserving and enhancing the power of the central authority in the management of polity, revamping and streamlining of administration and development planning and process. If Panchayati Raj system is envisaged as the creation of a third tier with in the constitutional frame whose essential purpose and objective would be to assist a highly centralised bureaucratic machine. controlled and regulated by the central political authority, in order to by-pass the States and their elected governments which have well-defined status under the Indian constitution, this will not be decentralisation of political power and administrative system but subversive of the federal system and arrangement based on linguistic affinities and regional identities. This is only emphasised by the proposal to hold Panchayat elections in the troubled Punjab under the President rule, imposed after dismissal of the elected State government, which has been extended and kept in place by special amendments to the Constitution. The very idea that the State governments can be knocked out of the picture even as decentralisation process is set in motion and the constitution may be amended for the purpose is to mock at the philosophy and politics of decentralisation of power and Panchayti Raj. This is not something novel either. Once before, way back in 1959, the then Deputy Chairman of the Planning Commission, the late Dr. D. R. Gadgil, remarked "The present mood is to talk about village democracy but deny real power even to the states"

clash of interests

The starting point for any meaningful design for decentralisation of political as well as administrative power has to be a halt to and reversal of the process of centralisation which has advanced to a point where Centre-State relations, in spite of their clear and definitive delineation under the Constitution, have come under a severe strain on all counts-political, administrative and financial. The position had indeed aggravated to an extent where the institutional arrangements governing Centre-State relations are tending to decay and ossify and the contending forces on both sides often take on confrontationist positions with unseemly political rhetoric in order to buttress with mass mobilisation their respective claims and contentions. This position has become all the more ticklish when political parties other than and opposed to the ruling party at the Centre have come to power in several States through democratic electoral process.

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A decentralised planning process, which is unquestionably an attractive proposition, is not possible under such a political environment. This is so especially when decentralised planning is supposed to involve participation and reflect the interests and aspirations of the mass of our deprived people at the "grass root level" and ensure that the benefits of planned development reach down to them. Development planning, after all, is not an exercise which is apolitical. It involves a sharp clash of interests - economic, social and political. The growing virulence

of the clash of interests has actually posed the question of the feasibility of meaningful development planning itself. This question has become insistent and outspokenly cynical in recent months when the commitment of the political authority at the Centre to the aim of economic development and social equity as well as discipline of planned development can no longer be taken for granted. The real issues in meaningful development planning are indeed being side-tracked both by the union government as well as many of the State governments. Their record of resource mobilisation for development, for instance, is admittedly dismal. But for some pointless noises and diversionary populist gestures, no firm or serious remedial action is being taken. On the contrary, there is drift into makeshift remedies which appear for the moment more easy but are bound to accentuate the socio-economic and political problems.

The slogan of decentralised planning in the wake of palpably retrogressive developments in the economy and polity, and policy shifts can be no mantra which can revive meaningful development process. It is not enough either to assemble helter skelter a mass of data on local conditions by the proposed computor network. Development planning at district level or below is bound to lack operational value out side a macro socio-economic and political policy frame and may well turn into a talking point of the vested interests entrenched at local and district levels. In the absence of basic socio-economic reforms and structure of popular institutions at district level and below, which are accountable and responsive to the people, decentralised planning will be perverted by the vested interests in collusion with the bureaucratic machine to strengthen their social influence, economic power and political clout, deprive the mass of the people of their rights and intensify their exploitation. The pushing through of the so - called centrally - sponsored schemes and technology missions in which the State governments are required to play the second-fiddle cannot be the panacea either. There must be delegation of powers and responsibilities on a wide-front to the State governments, in the first instance, which in turn must enter into similar arrangements with elected local bodies both in urban and rural areas.

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training the trainers

The "module on responsive administration" drawn up by a Ford Foundation Consultant and aimed at inculating what is called "normative values", is being followed with great devotion and is proposed to be part of a wider effort for enhancing knowledge and skills of administrators and managers on preferred lines. This effort is proposed to be supported by a variety of foreign inputs such as training of trainers abroad and setting up of institutions in the country which will have what is called "mentor relationship" with management programmes and institutions abroad to put in place standardised curriculum, training material and faculty. The existing training programmes and institutions conducting such programmes in the country have necessarily lost, in the wake of this development, relevance and importance in the union governments scheme of things. In the context of what is called a strategic intervention of the government for revamping the entire gamut of training administrators and managers, the role of academics and institutions which rely on academia is, in particular, being downgraded. The emphasis has been shifted to training the in-service personnel, especially the IAS cadre, to become trainers. Frowned upon especially are tendencies in the training and research institutes in favour of studies in development planning, social cost-benefit analysis, problems of popular participation in the development process and share of the underprivileged in the gains of development.

The World Bank, it might be noted, came out several years ago with a programme based on the philosophy that management and administration provide the solution for the problems of the developing countries, among them India in particular. It made a case for what are called pragmatic policies without ideological and moral hang ups and reliance on good management techniques aided, of course, by computors for achieving desirable objectives of stability and growth without disturbing the established socio-economic and political order. The ruling politicians in the developing countries were expected to accept these propositions as a substitute for the more risky and arduous tasks of institutional reforms and change in social relations. Management of development was elaborated by the World Bank with great finesse. The management capacity of the governments, especially in the developing countries, was overstretched and overloaded, it was arguedl It was, therefore, recommended that this load be reduced by sharing the burden of development with private enterprise-both indigenous and foreign. Public authority, it has since been argued, should not overstretch its development role and be content with what is called a "consultative approach" and let things happen by offering incentives to private enterprise and relying on the profit motive in the market economy to achieve results without being unduly concerned with

other considerations such as equity. This view of the development process has come to be accepted gradually and step by step in India during the eighties. The administrative system and structure is being revamped precisely on these lines.

modernising management structure

Lower priority for mobilisation of resources by the State and emphasis on efficiency of investment of resources and higher returns on investment, especially in private sector, have to be the special features of the management of development-new style, according to the World Bank. These propositions are inspired by the axiom that private management is a better vehicle than public enterprise for the efficient use of resources available or mobilised. It is irrelevant in this scheme of things whether socially-oriented priorities of development are embodied in the long-term development process. Efficiency of management has to be given precedence over the policy frame of development. A desirable management culture and work ethics can, however, be neither imposed by administrative fiats nor imported. They have to evolve within a given socio-economic and political milieu and changes that take place in socio-economic relations which impinge on different segments of population and sectional and class interests. It is not, therefore, either fortuitous or surprising, that those who are relying on administrative training and good management tools of their conception do not hesitate to give more rewards for top managers and administrators on a graduated basis and like to rely more on labour-saving technologies and enhanced powers to discipline working people and maintaing law and order. These indeed appear to be the essential parameters of the project for revamping and modernisation of India's management and administration structure. The implications of these trends in the application of technologies and management practices and revamping of administration in that context can only be ominous for a society of mass unemployment and mass poverty in India

How does the Panchayati Raj about which so much is being talked about fit in such schemes of things ? This may actually be inspired not so much by commitment to the decentralisation of power and responsibility as by the desire to dilute the role of public political authority in the development proccess even while saddling local bodies in rural and urban areas with accountability sans effective power to carry out the tasks arbitrarily assigned to them. In addition, this may be a ploy to mobilise the local representatives of vested interests in rural and urban areas in support of the bureaucratic administration and law and order machinery to put down social unrest and the struggles of the deprived masses for their rights and claims. It is possible, ofcourse, that popular masses by asserting their democratic will may still break through the new shackles that may be attempted to be forged by the vested interests at different levels of society and polity and secure some of their rights and claims But the Panchayati Raj institutions such as are proposed to be created under the entrenched political - power dispensation and with structural reforms of the property and social relations ruled out may turn out to be a scheme for strengthening shackles on the movements and struggles of popular masses rather than instruments of reform and reconstruction of Indian economy and polity to subserve larger social and development purposes □ □ □

"In the absence of basic socio-economic reforms and a structure of popular institutions at district level and below, which are accountable and responsive to the people,decentralised planning will be perverted by the vested interests in collusion with the bureaucratic machine to strengthen their social influence, economic power and political clout, deprive the mass of the people of their minimum rights and intensify their exploitation."

"Public authority, it has since been argued, should not overstretch its development role and be content with what is called a "consultative approach" and let things happen by offering incentives to private entèrprise and relying on the profit motive in the market economy to achieve results without being unduly concerned with other considerations such as equity."



Amend Constitution to strengthen Panchayat set-up

Dr. M. Naganathan

The author here surveys the approach of the Government towards the Panchayati Raj system right from the year 1957 when the Balwantrai Mehta Committee was appointed to recommend steps to rejuvenate the grassroots-level institutions. He is of the view that 'economic stability and equality can be achieved only through the Panchayati Raj institutions. However, under the present constitutional and social set-up, Panchayati Raj institutions cannot work successfully'. Giving the example of the Chinese communes as a successful strategy to decentralise powers for rural development, the author strongly recommends amendment of the Constitution to grant more financial powers to both the States and local bodies to enable the grassroots institutions to become viable politically, economically and socially'.

PANCHAYAT RAJ HAS BEEN ACCEPTED as goal and incorporated in the Article 40 of the Constitution of India largely through the initiative of late K. Santhanam who always stood for economic and financial decentralisation of powers. The resolution on Panchayati Raj was moved by him in the Constituent Assembly.

The Article states that the state shall take steps to organise village panchayats and endow them with such powers and authority as may be necessary to enable them to function as units of self-government. To fulfil this constitutional obligation, the State Governments in India enacted Panchayat Acts. Panchayat institutions in spite of their many handicaps are still a viable institutional framework for bringing about social, political, cultural and economic changes in India.

According to 1981 Census 76 per cent of the Indian population lives in villages. Most of them are under the clutches of poverty and illiteracy. Therefore only through Panchayati Raj institutions it is possible to reach these underprivileged and weaker sections of India. Many attempts had been made from time to time to rejuvenate this grassroots institution. Balwant Rai Mehta Committee appointed by Government of India in 1957 provided a new dimension and approach to rural democracy.

recommendations

The Committee felt that development cannot progress without responsibility and power. Community development can be real only when the community understands its problems, realises its responsibilities, exercises the necessary power through its chosen representatives and maintains a constant and intelligent vigilance on local administration. Based on the broad suggestions of Balwant Rai Mehta Committee, a large part of the country was covered by Panchayat Raj institutions. The total number of village panchayats covered 90 per cent of the rural population. "4974 Blocks had 4033 Samities, since some had opted for districts and Talukas as the key unit. Out of 399 districts, 262 Zilla Parishads were also conceived with varied degrees of actual power."

implementation

The findings and suggestions of the Committee were given serious consideration at the National Development Council meeting held in 1957. Based on these deliberations, various states created Panchayat Raj institutions according to the local conditions. States like U.P., Gujarat, Haryana, Himachal Pradesh, Maharashtra, Punjab, Assam and West Bengal had organised small-sized village panchayats covering a population of 1000

"As revealed in the Asoka Mehta Committee Report, all political parties in India stand for decentralisation of powers upto the Panchayat Raj institutions. In practice there has not been much serious discussion reflecting the desire for decentralisation on the part of political parties.

State like Tamilnadu and Kerala constituted big village panchayats covering a population of 1200 to 15000. Many state governments like Maharashtra appointed separate committees to make further improvement in the Panchayat Raj scheme. For instance Maharashtra Government appointed V.P. Naik Committee on Panchayat Raj. This Committee suggested that more development programmes and schemes should be entrusted to Panchayat Raj institutions for implementation. The Committee also emphasised that a District Council should be created to monitor and coordinate various rural development schemes.

Madras Panchyayat Act was passed in 1958. Panchayat unions were formed in 1960 to frame their own development schemes during the III Five Year Plan period in conformity with the guidelines initiated by the Third Plan. Tamilnadu Government appointed two Committees – Panchayat Education Finance Enquiry Committee (1970) and the Committee on Financial resources of Town Panchayats (1973).

Similarly Committees on Panchayat Raj were appointed by States like Rajasthan, Gujarat etc. In 1984 A.P. Government asked the National institute of Rural Development to study the resource aspects of Andhra Pradesh Panchayat institutions.

'Economic stability and quality can be achieved only through the strengthening of these Panchayat Raj institutions. However under the present constitution and social set up, Panchayat Raj institutions cannot work successfully."

Asoka Mehta committee

Another landmark in the Panchayat Raj institutions was the appointed of a Committee by the Government of India on Panchayat Raj institution in 1977 under the chairmanship of Asoka Mehta. The Committee reviewed the working of various Panchayat Raj institutions and made significant recommendations to activate these institutions. As rightly observed by the Commitee, "The story of Panchayat has been a story of ups and downs. It seems to have passed through three phases: the phase of ascendancy 1959-64; the phase of stagnation 1965-69; and the phase of decline 1969-77." (Report of the Committee on Panchayat Raj institutions, Govt. of India, 1978.)

new thrust

Between 1977 and 1987, the Panchayat Raj institutions passed through a phase of neglect. However the recent approach of the Prime Minister gives a hope that this grassroots institutions can be strengthened and stabilised in the ensuing VIII Plan period.

Economic stability and equality can be achieved only through the strengthening of these Panchayat Raj institutions. However under the present constitutional and social set up, Panchayat Raj institutions cannot work successfully.

the lacunae

Though many rural development activities have been initiated since independence, these schemes have failed to uplift rural masses. This is because there is no specific constitutional provision regarding the structure, and financial and administrative powers of rural institutions. As observed by many individual research studies as well as expert Committee Reports, these Panchayat Raj institutions have been at the mercy of the State Governments and their bureaucratic systems. The bureaucratic institutions

always like to usurp the powers of the rural institutions.

Another issue relates to the social aspects of the rural society in India. After several years of economic planning, Indian rural scene witnesses feudal tendencies in the land structure. Usury, caste and communal conflicts and social and cultural backwardness are the additional contributing factors responsible for malfunctioning of Panchayat Raj institutions. Even the achievements of Five Year Plans have touched but the fringe of the problem. The Panchayat Raj institutions as evolved in their present form have not provided any tangible solutions to the socio-economic ills of rural India.

"After several years of economic planning, Indian rural scene witnesses feudal tendencies in the land structure. Usury, caste and communal conflicts and social and cultural backwardness are the additional contributing factors responsible for malfunctioning of Panchayat Raj institutions."

Another issue relates to the lack of political will to share the power with the grassroots institutions of rural India. This has been pointed out by Balwant Rai Committee Report and Ashok Mehta Committee Report. Political parties play a very prominent role in the parliamentary democracy of India. As revealed in the Ashok Mehta Committee Report, all political parties in India stand for decentralisation of powers upto the Panchayat Raj institutions. In practice there has not been much serious discussion reflecting the desire for decentralisation on the part of political parties. Unless this attitude of political parties changes, there cannot be any hope for the Panchayat Raj institutions.

Another issue relates to the economic development through Panchayat Raj institutions Though India has accepted growth with justice as one of the goals of development planning, the process of economic growth in India has enriched only the rural rich and urban elite. It is unfortunate that after implementing Six Five Year Plans India has not tackled some basic economic problems of rural India. The provision of minimum needs like drinking water has been highly inadequate and unsatisfactory.

rural uplift schemes

The schemes of rural development adopted by the Government of India since the beginning of the Fifth Five Year Plan to minimise rural poverty are listed below:

a) Hill Area Development Programme 1975.
b) Special Livestock Production Programme 1975.
c) Food for Work Programme 1977.
d) Desert Development Programme 1977.
e) Training of Rural Youth for Self-employment 1979.
f) Integrated Rural Development Programme 1979.

In addition to these programmes some more rural development schemes were initiated during the Sixth Plan period. These were:

1) New 20 Point Programme 1980.
2) Development of Women and Children.

The achievements of these programmes were far from satisfactory because these programmes were sponsored by Central Agencies. The local Governments like the Village Panchayats are not fully involved in the implementation of Rural Development Programmes.

Many of the rural development programmes assigned to the village panchayats are not effectively implemented due to lack of resources and machinery. Therefore Panchayat Raj institutions are not showing keen interest in the ameliorating programmes mentioned above.

It is the right time for all the socio-economic and political institutions connected with the rural development to evolve a national consensus on a new strategy for rural development during VIII Plan period This should be done by associating the Panchayat Raj institutions in this task.

other's experience

The experience of other developing countries of Asia especially Chinese experience in the rural development through communes needs special mention The communes in China are the grassroots level institutions initiating rural development. As observed by Sartaj Aziz, "A Chinese Commune is not a large agricultural cooperative but a composite unit of local government that encompasses the whole range of economic, social, administrative and political functions for the rural community Its essential purpose is to organise and mobilise the rural population to develop their land and other resources in order to meet their essential needs on the principle of self-reliance while at the same time reducing social inequalities and creating a rural society based on justice and equality. (Sartaj Aziz, Rural Development: Learning from China, 1979). The author had visited China in 1980 and 1982 and personally inspected the Communes and seen their concept of decentralised rural development with the simple philosophy, "from the bottom up and from top down".

Any economic system based on agriculture should only adopt local level planning because the rural economy could alone provide income for the rural population by integrating national objectives, priorities and policies by having linkages with higher political and administrative levels.

The recent reforms in China regarding rural development also focus the need for further decentralisation of already decentralised commune system. "In handling relations with various mass organisations, the party and government will give full play to them (commun) and to the self-managed

organisations at the grassroots level. The purpose is to let the masses handle their own affairs in accordance with law. China has already gathered some experience in transferring power to lower levels in the course of its rural reforms."

(Peoples' Republic of China - the 13th Party Congress - China Reforms Beijing Review Publication, 1987, p. 36,)

While inaugurating the communes in the early years of socialist reconstruction (1950s), Chairman Mao observed "a new social organisation has appeared fresh as morning sun above the broad horizons of broad East Asia". (Chuhi and Tien Chien— Inside a People's Commune, Foreign Language Press, Beijing, 1975). He further adds, "It is good to set up people's communes. Their advantage is that they combine industry, agriculture, commerce, education and military affairs others making the task of leadership easier." (Ibid., p. 6.).

Though some of the operational and administrative aspects of commune system had been renewed and modified recently, the basic strategy of decentralisation in rural development is still maintained as a component China's rural reforms.

Gandhian concept

In this context it is to be noted that Gandhiji's views were expressed earlier than Mao on decentralisation of rural institutions. Gandhiji said, "my idea of village Swaraj is that it is a complete republic, independent of its neighbours, for its own total wants, yet interdependent for many others in which dependence is a necessity. Thus every village's first concern is to grow its own food crops and cotton for its cloth. It should have a reserve for its cattle and recreation and play grounds for adults and children. If there is more land available, it will grow useful money crops, thus excluding Ganja, tobacco, opium and the like The village will maintain a village theatre, school and a public hall. It will have its own water works ensuring clean water supply Education will be compulsory upto the final basic course. As far as possible every activity will be conducted on a co-operative basis... . The Goverment of the village will be conducted by Panchayat of 5 persons annually elected by adult villagers."

Till today we have not achieved the dreams of Gandhiji in creating ideal Panchayat Raj institutions. Presently certain functions are assigned to Panchayat Raj institutions in India. They comprise obligatory, optimal and agency functions. It differs from state to state depending upon the local conditions. Construction, repair, maintenance of all village Panchayat roads and of all bridges, road-dams and cause-ways on such roads, lighting of public roads, construction of drains and disposal of drainage water and sullage, maintenance of sanitary condition of the village or towns, the maintenance of burial and cremation grounds, maintenance of wells, ponds, tanks, etc. and supply of protected water for drinking purposes, planting and preservation of trees on the sides of public roads, opening and maintenance of public markets in local areas, control of fairs and festivals, maintenance of slaughter houses, reading rooms, play grounds, literacy centres, maintenance of maternity and other hospitals, provision of elementary education, prevention and control epidemic diseases and maintenance of minor irrigation tanks are the functions entrusted to Panchayat Raj institutions. For fulfilling these functions, the Panchayat Raj institutions are given the following financial resources. Property tax, Professional tax and vehicle tax are the major taxes levied by Panchayat Raj Institutions. Licence fees on various commercial and industrial activities are also collected by Panchayat Raj institutions. Proceeds from Land Cess, Stamp Duty and Entertainment tax are transferred by the States to Panchayat Raj institutions. Since the above-mentioned revenue are not substantial for Panchayat Raj Insititutions, the State Governments give grants and loans. The Grant Loan component is large in the finances of Panchayat Raj institutions.

Santhanam report

Taxation Equiry Commission 1953-54 also suggested various measures to strengthen the finance of Panchayat Raj institutions. Santhanam Team suggested that "every State Government should establish a Panchayat Raj Finance Corporation to provide loans to Panchayat Raj bodies, to enable them to take up different type of remunerative enterprises" (Report of the Committee on Panchayat Raj Institutions, Govt. of India, 1978.)

These suggestions were not accepted by the State Governments since they are facing paucity of funds and dependent on the central devolution of funds. The Panchayat Raj institutions are called upon to meet the ever-growing needs of the rual population. They are unable to fulfil this demand because of financial constraints keeping in line with the new strategy to rural development, Asoka Mehta Committee has suggested the assignment of new economic and developmental functions to Panchayat Raj institutions. These recommendations of Asoka Metha Committee were not implemented by the Government.

The Panchayat Raj institutions do not enjoy constitutional status in raising revenues and discharging developmental fucntions.

amend constitution

The Constitution of India should be suitably amended in order to grant more financial powers to both the States and Local Bodies. Then only these grass-roots institutions can become politically, economically and socially viable. Otherwise the strategy of VIII Plan to achieve economic development with emphasis on rural development will be a futile exercise. □ □ □



Revitalisation of Panchayati Raj —its implications

C. Narasimham

The participation of people in running the affairs of state strengthens the democratic process and is an effective instrument for national growth. This is what local self-government is about and this is what we term as Panchayati Raj in our country. The author, Shri Narasimham, who has an extensive experience in the implementation of the Panchayati Raj concept, envisaged by the first Prime Minister of free India, Shri Nehru, traces, with hurt feelings, the gradual decline of the popular system over the years. He laments over the fact that the system, which held great promises, today stands administratively crippled, financially anaemic and caught in the cobwebs of confusing procedures. In his opinion, rural development is inseparably linked with the Panchayati Raj which provides innumerable opportunities of self-help and self-reliance to the vast rural masses, and trains the local leaders in the art of governance. He even goes to the extent of suggesting an amendment to the Constitution in order to fortify the smooth functioning of the Panchayati Raj system

ADDRESSING THE ANNUAL CONFERENCE of Development Commissioners, Prime Minsiter Nehru said "there can be no greater or more fascinating adventure than Community Development and Panchayati raj. Those of us, who are partners in this work must therefore have some sense of pride in this vast undertaking and a feeling of exhilaration that we are participating in a historic task. We want good men at the top to guide this great movement. But we want more good men at the village level. We have to train up scores of thousands of village leaders who hve a measure of initiative and pride in their work." Pandit Nehru evinced very keen interest in the working of Panchayati raj till the moment of his death. He kept himself almost in daily touch with its progress. He wrote letters regularly every fortnight to the Chief Ministers requesting them to look after Panchayati raj themselves because of its importance and not to entrust it to any other Minister. He particularly wanted them to keep a close watch over its implementation and give it all possible encouragement. During his visits to States, he gave the highest priority to seeing the movement at its grass-roots level. He came all the way to Shadnagar in

PANCHAYATS ... ROOTS OF THE REPUBLIC

Andhra Pradesh to inaugurate Panchayati raj in that State. Speaking on that occassion at a huge public gathering he said "I am greatly interested in this great reform. If we succeed in it, and succeed we will, then we shall have done in our generation something worth while and something that will deserve permanent record." Later when he visited Visakhapatnam he addressed a vastly attened public meeting where he observed "the task of our Community Development and Panchayatiraj is to bring the message of hope to the masses of our people, to teach them self-reliance and confidence in themselves and the way to realise our objectives through hard and co-operative effort." In this gigantic effort Prime Minister Nehru received excellent support from Sri S.K. Dey the then Union Minister of State for Community Development who toured the States intensively, met the Chief Ministers, Development Commissioners and People's representatives and greatly helped to solve the local problems then and there. He was the Prime Minister's right hand in chalking out the details of programmes approved by him and he kept him fully informed from time to time of the State-wise progress at the field level. Sri Dey was the most popular Central Minister in those days. Rural people all over the country knew him, they cheered and greeted him on his tours. They used to stop him at unscheduled places and garland him.

Panchayati Raj annihilated

Alas! Panditji's death not only created a great void in the leadhership of the Nation but it also dealt a death blow to the great Reform of Panchayatiraj in which the rural masses pinned their faith for the improvement of their lot. Thereafter, Chief Ministers looking after Panchayati raj became lukewarm: gradually they lost all interest in this movement and took various adverse measures which diluted the authority and utility of Panchayatiraj Institutions. The sheet-anchor of Panchayatiraj, Sri S.K. Dey, was no longer a Minister and thus the one leader who could still play a useful role and try to stem the rot was out of their way. Administratively crippled, financially anaemic and caught in the cobwebs of confusing and tangled procedures, Panchayatiraj institutions have been emaciated beyond recognition.

In some States, the Government set up a parallel organisation to Panchayatiraj institutions and diluted their prestige, powers and functions. For example in Andhra Pradesh, they constituted Zilla Development Boards under the Presidentship of District Collectors for the avowed purpose of maximising production and for overseeing the execution of works of Zilla Parishads. These are the main statutory function of Zilla Parishads. The Andhra Pradesh State Chamber of Panchayatiraj stoutly opposed the creation of these unwanted, unnecessary and superfluous bodies and the Zilla Parishads started a vigorous agitation against them. Five Years later, a New Chief Minister saw the futility of the parallel set up and abolished it but not before Panchayatiraj bodies suffered vastly and involved themselves in unending conflicts with the newly imposed development boards.

Several State Governments continued their efforts to obliterate Panchayatiraj-all but in name.

The Social Education organiser was a key functionar in the block. He was removed from the Panchayat Samithi, redesignated as Block Assistant Public Relations Officer and attached to the Information and Public Relations Department.

The Extension Officer (Industries) who was meant for promoting Rural arts, crafts and small industries was handed over to the Industries Department and he became independent of the Block Development Officer.

The Extension Officer (Animal Husbandry), a graduate in Animal Husbandry, was in charge of veterinary dispensaries in the block and also extension work. He was replaced by a poorly qualified Live Stock Inspector. *He was a low functionary and the essential* programmes for upgrading cattle, for increasing milk production, for conserving fodder through construction of silos etc. suffered badly.

The extension Officer (Agriculture) was renamed as Assistant Agricultural Officer and placed under the direct control of the District Agricultural Officer. Agriculture development was the very soul of the block's programme and to have deprived the Samithi and the BDO of all control over this important block functionary shows the limit of the States' unconcern for increased production when the country was and still is in need of more food.

The Extension Officer (Education) who was responsible for over-seeing the village community's efforts for better enrolment of children in schools, for prevention of drop-outs, for proper distribution of free books and slates, for supervising midday meal services and for improving generally the efficiency of schools was not at all available for these important tasks. He was

"Panchayati Raj today exists only in name and that too on paper and parhaps on the lips of those few who struggled hard for years for its success. It is sad that all this has happened when in reality there is no alternative to strengthening our vast rural base."

frequently taken outside the block and entrusted with work wholly unconnected with the block eg., conduct of Public examinations, spot valuation, inspection of secondary schools, clearance of arrears of work in the D.E.O's office etc. His diversion was nothing short of his actual removal from the block. Consequently Primary education with which the whole of our future as a nation is intricably bound was left to fend for itself.

The Mukhya Sevikas and Gram Sevikas had been transferred to the control of the District Women Welfare Officer and they functioned independently of the block authorities in this essential service relating to the Welfare of Women and children. What could these

women officials achieve without the involvement and assistance of the block personnel? Several State Governments made the Medical Officers of Primary Health Centres almost independent of the Samithi and its B.D.O. Consequently they functioned without any control what so ever at the block level. This naturally led to innumerable complaints against the quality of service rendered in P.H.Cs.

The Village Development Officer (Gram Sevak), a key functionary in his area, was originally conceived as a multipurpose worker for a very good reason. He was the one official who frequently visited the village (his jurisdiction covers only three or four villages) and the villagers knew him and met him frequently and sought his assistance to solve their problems. He functioned as their friend, Philosopher and guide. He was the single window through which the people saw the government activities. His multipurpose character was given up and he was made an agricultural extension worker directly responsible to the agriculture department ignoring utterly the block personnel and the people's involvement in agricultural programmes.

"It is not difficult to imagine what the state of mind of the masses today is like. They are frustrated and disgusted with their experience, over the past three decades, with local authorities and will not be taken in easily now or hereafter by promises made by leaders. They want concrete results to justify a change in their attitude."

The creation of Community Devlopment Blocks has given the country for the first time a uniform unit of area development and teams of officials having the same designations and the same functions and executing the same development programmes. Nothing has tended to bring about so much integration of this country as Community Development has done. But unfortunately the block has been reduced to no more than an incongruous patch in the whole scheme of integrated rural development. It functioned under a leader (B.D.O.) who was totally ignored and effectively deprived of his team of officials. The excellent rapport that existed between him and the extension officers completely disappeared and the B.D.O became a leader without a team, without funds and ignored by the people.

finances of p.r. institutions

No account of the monumental tragedy of Panchayatiraj could be complete without a description of its finances. While the responsibilities of these bodies have multiplied manifold and the demands made on them by the people have spiralled along with galloping inflation, the State Governments showed scant concern for the progressive erosion of their financial viability. The P.R. Institutions reached a state of paralytic stupor. To call them people's institutions for self-government is to make a farce of the entire edifice of democracy.

p.r. exists only in name

Panchayati Raj today exists only in name and that too on paper and perhaps on the lips of those few who struggled hard for years for its success. It is sad that all this has happened when in reality there is no alternative to strengthening our vast rural base. Nearly eighty per cent of our people still live in villages. Self-help and self-reliance are essential for their progress and they could be best inculcated in them by their elected local representatives on Panchayatiraj bodies who should form a cadre of local leaders trained in the art of governance.

prime minister on the scene:

The Nation should be grateful to our Prime Minister Shri Rajiv Gandhi who, at this critical juncture, is giving his personal attention to the woeful state of Panchayatiraj and expressing his unflinching faith in the system of decentralisation of democracy and his strong determination to revitalise Panchayatiraj institutions so as to make them effective instruments in the hands of duly elected people's representatives and thus ensure the local people's effective participation in all schemes, projects and programmes designed for their own development. It remains to be seen how effectively he will be able to translate his intentions into practical action. Unless he accepts fully the implications of Panchayatiraj, develops a political will as strong as steel to fully implement this great reform, it would be difficult to fight successfully vested interests, communal elements, selfish politicians, narrow minded bureaucrats etc. It is not difficult to imagine what the state of mind of the masses today is like. They are frustrated and disgusted with their experience, over the past three decades, with local authorities and will not be taken in easily now or hereafter by promises made by leaders. They want concrete results to justify a change in their attitude.

"Our experience spread over more than three decades has clearly established that the state Governments all over the country, instead of fostering the growth of local authorities, throttled them and made them totally ineffective to fulfil the aspirations of the rural masses."

what exactly are the implications of decentralisation (i.e.) panchayatiraj ?

It means, sharing of power by people's elected bodies with the State Government and so it implies the readiness of the Government to part with some of its powers.

It means, the division of State revenues between the Government and Local Authorities and so it implies that the State Government is fully prepared to make over sizeable funds to them.

It means, that no parallel organisation will exist and that the powers and functions entrusted to

Panchayatiraj institutions will not be encroached upon either by any other body or by the bureaucracy and so it implies that government undertake to ensure the functioning of these authorities without any unhealthy competition in the spheres allocated to them.

It means, that the ruling party in the state not only tolerates the capturing of Panchayatiraj bodies by opposition parties through the ballot but also treats them with the same consideration as it does its own party.

It means, that the staff employed in Panchayatiraj institutions would be under their control completely, that they would be wholly responsible to them only and government would not impose dual control at any time.

It means, that the decisions, resolutions, views and opinions of Panchayatiraj bodies would be duly respected and allowed to be implemented.

It means, that the government departments accept, without any reservation, the policy of decentralisation and the consequent big change it ushers in district and rural administration and that they fully co-operate with, support and help Panchayatiraj institutions.

It means, that legislators (M.Ps and M.L.As) accept the reform as a fundamental necessity and would not look upon the office bearers of Panchayatiraj institutions as rivals for power in their own constitutions and try to denigrate them.

It means, that voluntary organisations functioning at village, block and district level would work in unison with the appropriate Panchayatiraj bodies at those levels and not by-pass them.

It means, that the people in whom the sovereignity rests will be allowed to go to polls periodically as envisaged in the statutes and the approprate statutary provisions would be made to ensure the regular conduct of polls for Panchayatiraj bodies and that postponement would be prohibited except under very justifying circumstances.

It means, that political parties which participate in elections to Panchayatiraj bodies would ensure that their own parties follow the democratic principles scrupulously and ensure the conduct of elections to their party organs at various levels and would not leave room for the government or the people to point their finger at them.

It means, that grass-roots level institutions would become the focal points of change in rural life and that consequently Panchayats, Co-operative Societies, Women's Associations Youth Clubs etc., would play a vital role as instruments of change and that government fully accept this position and encourage them in their efforts.

It means, that for all practical purposes panchayatiraj bodies would be looked upon as the real government at their level of functioning and that the state government would regard them as their own important limbs.

constitutional clout:

Article 12 of our Constitution recognises local government institutions as an integral and essential part of the National Government. The subject of local government figures against entry 5 in the state list of the 7th Schedule.

There is no separate and distinct Chapter on Local Authorities like the Chapters on "the union", "the States", and "the Union Territorries". Also there is no separate list of subjects in the 7th Schedule which would come under the purview of Local Autherities. Consequently all units of Local Government are creations of the State Governments and possess such powers and perform such functions as are specifically entrusted to them by Acts of State Legislatures.

Again, the Constitution of India devides the Public Revenues of the Government into two parts, one for the Union and the other for the States and leaves it to the discretion of the State Government to allot suitable resources to local bodies out of the State's share of Public Revenues. Our experience spread over more than three decades has clearly established that the State Governments all over the Country, instead of fostering the growth of local authorities, throttled the aspirations of the rural masseses. Democracy can never be effective if the very existence of people's representatives institutions depends upon the political conveniences of the wielders of power. It is, therefore, absolutely necessary to amend our Constitution and add a Chapter VIII-A after Article 242 defining the goals, powers, functions and resources of local authorities and in particular making a specific provision (a) to appoint a State Finance Commission once every five years to apportion the revenues of the state between the state and the local authorities; and (b) to prohibit the postponement of elections to these bodies exept under very special circumstances and that for a very brief period.

there is hope

If our Prime Minister accepts fully the implications of Panchayatiraj and implements them, he will succeed in the real decentralisation of district administration about which he is very enthusiastic and earn the gratitude of our millions in rural India. It is the nation's hope that he would prove his world renowned grand father's vision of and faith in Panchayatiraj were fully justified.

world's view on local self-government

The World opinion is veering round the view that local self-government is essential for national growth and for effective people's participation and that it is an integral indispensable part of the entire democratic process. So much so on October 15th, 1985, eleven member countries of the council of Europe signed the European Charter of Local Self-Government. It makes respect for the autonomy of Local Government a binding international obligation. Should our big democracy lag behind? ■■■



Rescue Panchayati Raj from 4 devils

Bharat Dogra

The author here points out that the socio-economic conditions as obtaining in our rural areas have given birth to certain conditions of stress which, he fears, will preclude the panchayati Raj from achieving the desired objectives. According to him these stress conditions are four in number, viz., lawlessness, exploitation of the small by the big, family and factional feuds and property disputes. Citing concrete examples, the author calls for urgent steps to tackle these problems, otherwise, he fears, people will lose faith in the Panchayati Raj institution itself.

THE GREATER INVOLVEMENT and activisation of village Panchayats and other Panchayati Raj institutions in the implementation of development programmes is almost unanimously accepted as highly desirable for the achievement of better results in rural development. This view is also accepted by the Government. The Seventh Plan Document while lamenting that Panchayati Raj institutions have not been actively, and effectively involved in the implementation of rural development programmes except in a few sates, went on to say that wherever such an active and effective implementation has been ensured the quality of programme implementation has been decidedly better. The plan document then called for placing more development funds at the disposal of Panchayati Raj and Community Development bodies. The states would be called upon to activise Panchayati Raj institutions, the Seventh plan document went on to add, particularly at the village and block levels, with a view to ensuring their active involvement in the planning and implementation of the special programmes of rural development particularly those concerned with poverty alleviation and provision of minimum needs.

re-activisation

More recently, at the highest level there has been reaffirmation of the government's decision to strengthen the Panchayati Raj institutions and to place higher reliance on them for achieving the objectives of development planning.

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However, while thinking of placing greater reliance on Panchayati Raj institutions, we cannot ignore the larger socioeconomic trends in villages from where, directly or indirectly, the Pradhans, block pramukhs and other Panchayati Raj representatives will be elected and where they will operate. These larger socio-economic conditions will, to a large extent, determine the kind of persons who get elected to these posts and their predominent concerns once they get elected. In this article we intend to examine the problems in achieving the desired objectives of Panchayati Raj under certain conditions of stress.

While several stress-conditions can be identified, we are here taking up four problems which exist over quite large areas: (1) growing lawlessness and influence of criminals; (2) the perpetuations of extreme and influence of criminals; (2) the perpetuations of extreme forms of exploitation and dominance of exploiters over the others; (3) high incidence of family feuds and factional disputes; and (4) high incidence of land or propety disputes and the resulting tension. Of course all these problems are not mutually exclusive and two or more of these can exist together in a serious way. Yet we discuss these separtely so that their implications for the functioning of Panchayati Raj can be brought out clearly.

lawlessness

It cannot be denied that in certain parts of the country criminals have acquired an important clout in the socical and economic life of areas of their functioning- who can deny the influence of the mafia dons of Dhanbad and Gorakhpur, or the dacoits of Bundelkhand and Chambal in the areas of their operations? These are only some of the better known examples; criminals lesser known at the national level but nevertheless notorious in their own areas wield clout over sections of population in other areas. How this situtation has been reached need not detain us here; what is important from our immediate point view is that in Panchayat election, having small constituencies, they can exert a very powerful influence. Not only can they influence the election of candidates, they can themselves get elected to the post of pradhans, block pramukhs and more senior posts In Banda district of Uttar Pradesh (Bundelkhand region) more than half of the candidates who have been recently elected to the posts of block pramukhs have known criminal records. The biggest dacoits that this district has seen in recent times, after serving a prison sentence, has been elected unopposed (who could oppose him ?) as a block pramukh.

As for the election of village pradhans, the influence of armed gangsters could be seen clearly in several constituencies, specially in the Patha region. Thus while some of the bigger criminals have been elected as block pramukhs, several of their benchmen have been elected as pradhans. This fact can be confirmed easily, even ignoring unidentified crime, by just looking at the number of recorded serious offences in which several of these pradhans and pramukhs have been already involved.

The implications of this phenomenon on the functioning of Panchayati Raj can hardly be exaggerated. The persons on whom we will be relying to implement development programmes will be known criminals of the area who have been elected largely because of the fear evoked by them, How much faith can one place in these persons with criminal antecedents before placing development funds and responsibilities in their hands? How much keenness will a B.D.O. have for development work when he has to interact with an ex-dacoit block pramukh ? what about the overall scope for people's involvement in development programmes with a notorious ex dacoit sitting in-charge ?

exploitation

Secondly, we also know that in several villages, specially in the more remote and backward villages, the exploitative grip of a small number of big landlords-cum-money-lenders-cum-contractors over the majority of the population remains very strong. Such is the extent of this dominance that the exploited persons are not willing to openly speak against this exploitation even when they are informed by well-meaning social workers that what they are enduring is illegal under several laws enacted long ago in country. The dominnant sections try their best to secure the collusion of officials in perpetuation and strengthening of their hold over their areas and distorting government schemes intended to benefit the poor towards this end.

Howe do these dominant sections react to the mergence of Panchayati Raj institutions ? They are small in number, so, if the exploited sections, who are clearly in the majority, manage to elect representative who are devoted to fighting for their rights, this would be a blow for the dominant sections. So they try in various ways to influence the election results in such a way that they or their man get elected as pradhans, and their interests continue to be protected even through panchayati Raj institutions. Such is their hold that they often succeed in doing so, and even where one or two pradhans of different leaning somehow manage to get elected, so much pressure is exerted on them from various quarters that they are unable to serve the exploited sections in an effective way.

Let's give another example from recent Panchayat elections in Patha region of Banda district (U.P.). The candidates who belonged to Kol tribals and other weaker sections were terrorised by the dominant persons of this area. In Kota Kandaila village, a harijan candidate was forced to withdraw at gun-point. This person then could not be seen till the elections were held. Similarly a Kol candidate of Chulhi village, Gaon Sabha Barhahmafi, with good support among weaker sections, was whisked away. Suadin Kol of Bhaira village was whisked away in a jeep just when he was going to file his election papers.

This is not an extreme situation. In fact, the situation here was somewhat better due to the intervention of some social workers; in fact it was also due to them that these serious irregularities could come to light. In other areas where a few families dominate the life of all others, even more extreme steps may be taken to curb the democratic aspirations of the weaker sections. Due to

this, the dominant families and their henchmen dominate the Panchayati Raj institutions. Can we really expect them to honestly and sincerely implement the government schemes most of which have a bias in favour of the poor?

feuds and disputes

Violence and tensions relating to family and factional feuds are another distressing but important part of the rural life in several areas. Without any important social initiative to curb this social evil, or at least its more aggressive manifestations, the advent of Panchayati Raj elections, whose constituency being much smaller, affects and involves villagers in a more direct way relatively. The elections for state legislatures. has made the factionalism more bitter in several ways. First, the feuds and factionalism came into open at the time of the elections, often in a bitter way, and after the elections, there is an effort by the victorious family or faction to punish its adversary. This is not to say that villagers experiencing such social problems in an acute form should be kept away from this democratic process, but only to stress the importance of foreseeing the adverse unintended implications in the existing setting, and so, if possible, initiating a social process to curb such rivalries and feuds. In the absence of such an effort, there is no doubt that an unintended effect of Panchayati Raj has been a further deterioration in the already distressing social relations in these villages, and in most cases, the injustice done by the dominant faction to its less powerful rival has been accentuated.

property disputes

Lastly, there is the problem posed by those villages which have reported a very high incidence of property disputes and the resulting tension. This problem is seen in a very acute form in the villages around urban areas where property values have soared very high due to all round urban expansion. This has turned elections to panchayats as a source of quick enrichment. Plots are carved on arbitrarily and sold with impunity, regardless of the illegality of such transactions. This has bitterly divided the villages into a handful who have carved fortunes for themselves and others, mainly from the weaker sections, who feel deprived of their rights as the claiment to the land meant for distribution. Large-scale corruption, illegal transactions, tensions and open violence have been widely reported from such villages, in all of which the elected village pradhan plays a key role. In such areas, unless steps are first taken to curb the very large-scale racketeering in high value land, it is most unlikely that the institution of Panchayati Raj, from election time onwards, will remain uncorrupted by it.

No doubt, experienced persons can add further to this list of 'stress conditions' under which Panchayati Raj will inevitably run into severe problems and distortions unless preventive and ameliorative steps are first taken. Of course, it is not only for the success of Panchayat Raj that these problems need to be tackled, although in this article we've spoken only from this perspective. These serious problems have to be tackled and fought in any case for the widespread distress and injustice for which these are responsible. The effort to make Panchayati Raj successful is merely an additional reason why these problems should get our urgent attention. The problems are such that these will require a big and concerted effort, combining both government and voluntary action-honest and dedicated.

It is certainly not our intention to bring Panchayati Raj into any disrepute. However, we believe that it helps no one to ignore problems which are there for everyone to see. These problems have led in several areas, to the emergence of a highly distorted version of the idea that was started in the noble name of Panchayati Raj. If the problems persist, the people in these areas will lose faith in the institution itself. Hence the urgent need to tackle these problems to enable Panchayati Raj to play the important role vested on it in the democratic development process. ■■■

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(Contd. from page 68)

whom are resident within those area.

(2) The State Government may make rules regulating—

(a) The constitution of such Courts and the powers to be exercised by them;

(b) The procedure to be followed by such courts in the trial of suits and cases;

(c) The enforcement of decisions and orders of such courts; and

(d) Any other matter connected with or incidental to the matters aforesaid

(1) If at any time Government of a State is satisfied that any Council in the State is not functioning in accordane with law or so grossly abusing its powers or is functioning in a manner which is detrimental to public interest, he may by order, suspend or dissolve the Council and appoint an administrator to exercise the power vested in the Council.

(2) Every order made under clause (1) together with reasons thereof shall be laid before the Legislature of the State and shall cease to operate at the expiration of six weeks from the reassembly of the Legislative Assembly of the State, unless before the expiration of that period it has been approved by a resolution of the State Legislative Assembly.

(3) An order made under clause (1) may be withdrawn at any time by the Governor.

(4) An order so approved under cluase (2) shall unless revoked, cease to operate at the expiration of six months from the date of passing the resolution approving the order under clause (2) and an election to constitute the Council shall be completed before expiration of the said period. ■■■



Panchayat Raj—strengthening of swaraj

Vasantha Surya

The author here analyses as to why the Panchayati Raj system could not make much headway. She feels, 'given a proper political perspective, Panchayat Raj could become meaningful'. Giving the example of West Bengal, she says, 'the proper political perspective is clearly thorough-going land reforms and measures to establish soical justice. This has a bearing on the membership of and the leadership of Panchayat bodies.' She adds, 'if the Central Government's recent pronouncements on the need for decentralisation are to have any effect, Panchayat Raj must not looked at any more as a mere administrative question, but as a political and constitutional requirement. In its essense, it is a question of swaraj'.

Local self-government is considered by political theorists and ordinary citizens alike to be what democracy is all about. To participate in decisions concerning one's immediate environment, with a bearing on one's own day-to-day life makes democratic common sense. It is a step that cannot be skipped over, even in the most sophisticated and complex of political systems, as is being realised under *perestroika* in the USSR today, where the *soviets* are being restored to the position of power and responsibility originally envisioned for them. In most western democracies a traditional of local autonomy exists, and is jealously guarded. It seems obvious that participating and involving oneself in the work of running one's own local community or village is at least as important as taking interest in higher levels of political participation and involvement. Like charity, democracy begins at home.

swaraj

The goal of the Indian freedom struggle was quite clear in this regard: it was self-rule, swaraj. A demand articulated by a people who had been deprived of rightful participation in their own affairs, who had been benumbed and alienated by the experience of

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feudal and colonial domination, swaraj was seen as the birthright not only of the nation as a whole ("India" that is "Bharat" was as yet an unrealised vision), but of every villager and town-dweller. To belong and to take part was to be free. Only swaraj could make growth, or development, possible. "Naam irukkum naadu namadu enbadai arindom!" said Bharati, affirming this spirit. ("We know at last that the land we live in is ours")

directive principles

When the Constitution of India was framed, a commitment was made in the Directive Principles "to organise village panchayats and endow them with such powers and authority as may be necessary to enable them to function as units of self-government". This was an attempt to graft constitutional government onto the traditional idea of "councils of elders". though not the actually existing old village and caste panchayats. it was hoped that the influence and respect commanded by the old panchayats would flow naturally to the new local institutions to be created in Independent India But what flowed even more naturally from the old to the new were the old inegalitarian and authoritarian values in Indian society. The new panchayats reflected the power relations in the village, because nothing was done to radically change the basis of the village economy.

"It seems obvious that participating and involving oneself in the work of running one's own local community or village is at least as important as taking interest in higher levels of political participation and involvement. Like charity, democracy begins at home.

It soon became clear that establishing institutions of genuine local self-government and restructuring the economy were not priorities for the Indian State Its survival, and the survival of the nation as a political entity seemed to demand the maintenance of stability and unity, if not uniformity Towards this end it exerted pressure all the way down, imposing a pattern of integration which seemed the only possible alternative to fragmentation and chaos. Given the experience of Partition, and the powerful regional and linguistic loyalties striving to assert themselves in the 50's, unity seemed a fragile thing indeed, needing urgent attention.

sharing of power

Granting administrative autonomy and sharing political power all the way down from the Centre through the States down to the district and local level seemed likely to threaten unity in another way · it would have meant coming up sharply against the class configurations in Indian society. In particular it involved taking sides against the rural rich and their supporters, redistributing land, and undertaking measures for social reconstruction. Half a century of politicisation had produced some expectations, and in the 50,s some action, not entirely symbolic, did take place in this direction. Zamindari was abolished, and land reforms were urged upon the States by the Centre. And Community Development was offered as a model for local administration, as conduit for development to flow from the top downwards to the village.

Community Development was essentially a technocratic solution to an economic and political problem. The Panchayat Raj scheme which followed it in the 60,s supplied the framework of a possible solution by a three-tier system of representative government from the District downwards. It was left to the States to implement it along with land reforms Superficially the patterns of land ownership had begun to change, but inequalities continued and multiplied. The elected bodies inevitably reflected these inequalities, and lobbies and pressure groups jostled for accommodation within them. Modulated and regulated by the Block Development Officers and the technocratic hierarchy, development came to some of the villages but not democracy. The panchayats functioned like bazars where the benefits of development were bartered for local influence and power, for the bureacracy as well as for the State-level politicians. Those who got the best bargains at these bazars were not particularly concerned with the erosion of democratic rights or interested in efficient government at the village level

Tamilnadu experience

Despite the Janata Government's stated intention to overhaul panchayat raj in the late 70's, it remained more or less in this condition all over the country with a few important exceptions. Tamil Nadu provides an extreme example of panchayat raj breaking down totally, under the weight of its own corruption and inefficiency The fake muster rolls of the early 70's exposed extreme vulnerability of local bodies in the existing socio-economic circumstances, and the State Government felt justified in doing away entirely with local self-government. The panchayats were dissolved, or allowed to eke out their terms, and no elections were held for 15 years. The bureaucracy under the direction of the ruling party in the State, and now under the direction of the Governor acting under President's rule, has been running the state, and no

"Granting administrative autonomy and sharing political power all the way down from the Centre through the States down to the district and local level seemed likely to threaten unity as it would have meant coming up sharply against the class configurations in Indian society"

effective constitutional or legal action has been taken to restore the local bodies. The virtual "death" of local self-government in Tamil Nadu put a stop to both development and democracy for almost two decades. The alienation of the people from local affairs, from their immediate political environment, and their mechanical and programmed participation in State and national affairs testify to this political "death".

"Community Development was essentially a technocratic solution to an economic and political problem. The Panchayat Raj scheme which followed it in the 60's supplied the framework of a possible solution by a three-tier system of representative government from the District downwards."

This could be the fate of local institutions anywhere in the country if they are left to the mercy of power brokers. Romanticising the village as an idyllic environment where natural justice and democracy prevail is often done. The facts are different, and village upper classes and castes as well as the oppressed are not characterised by commitment to democratic values in practical affairs. But this does not mean that the village does not deserve power, that decentralisation and devolution are unworkable ideas.

Given a proper political perspective, panchayat raj could become meaningful. Judging from the West Bengal example, the proper political perspective is clearly thoroughgoing land reforms and measures to establish social justice. This has a bearing on the membership and the leadership of panchayat bodies.. All classes are fairly represented, and the poor and the oppressed at last have a voice commensurate with their numerical strength. The effect is salutary on the bureaucracy and the police. Schemes meant for the amelioration of poverty reach those who need them as, for example, the Food foi Work Programme. And there is a healthier relationship with the police, with greater sense of security all around.

Whether maximising the involvement and participation of the majority makes for "success" in purely administrative and technocratic terms would depend on many other things— the literacy and awareness level and the availability of funds. But it certainly brings out the vital connection between development and democracy.

If the Central Government's recent pronouncements on the need for decentralisation are to have any effect, panchayat raj must not be looked at any more as a mere administrative question, but as a political and constitutional requirement. In its essense, it is a question of swaraj. □ □ □

"Be Brave and all the rest follows"

This is what Jawaharlal Nehru wrote to his daughter, Indira Priyadarshini, in a letter dated Oct. 26, 1930.

Today, Republic Day, in the year that we observe the centenary of Jawaharlal Nehru, we remember his words and all those children who have shown exceptional courage, living up to the ideals of service above self.



7 MAR 1989

Yojana

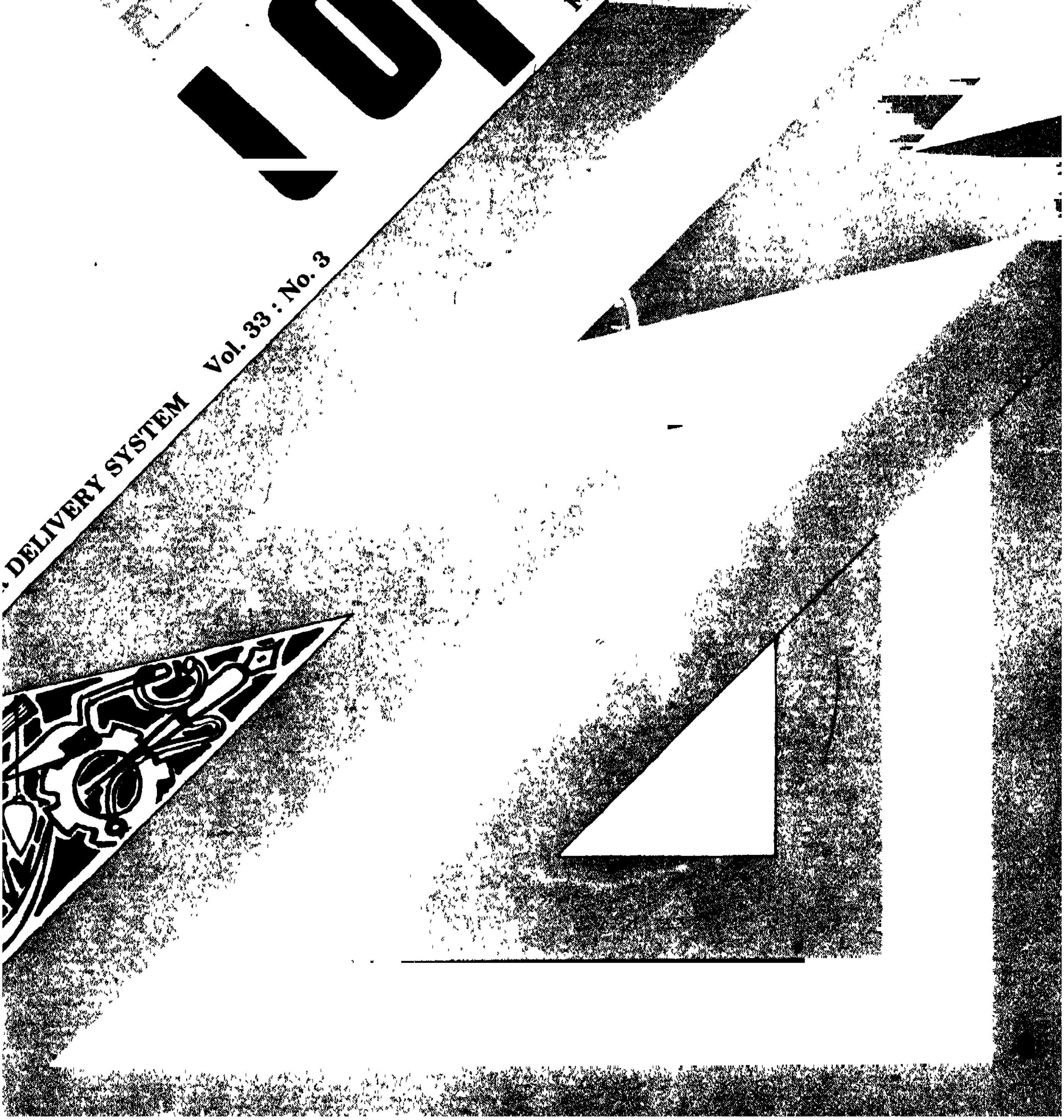
RICE PRODUCTION

FEBRUARY 16-28, 1989

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... DELIVERY SYSTEM



Rice procurement higher in 1988-89

PROCUREMENT OF RICE DURING THE CURRENT 1988-89 marketing season is higher than that of last year. As on January 9, 1989, 4.66 million tonnes of rice (including paddy in terms of rice) had been procured as against 4.13 million tonnes procured during the same period in last marketing season.

Except for Punjab, procurement in other States has been higher this year. Uttar Pradesh has already procured 8.12 lakh tonnes in terms of rice against last year's total procurement of 6.07 lakh tonnes. Procurement in Haryana has also touched 6 lakh tonnes against total procurement of only 3.19 lakh tonnes last year. Even in Punjab, collection of levy rice alone was higher by more than one lakh tonnes.

Unprecedented and unseasonal floods during September 1988 had caused enormous damage to the paddy crop in Punjab. The floods gave a serious setback to the procurement drive in the State. However, various steps taken by the Union Food Department not only helped in minimising reduction in procurement in Punjab but also resulted in higher levels of procurement in other States.

The measures taken include imposition of levy on all varieties of rice including basmati, strict enforcement of regulatory measures to check evasion of levy and imposition of movement restrictions wherever considered necessary. Food Corporation of India was directed to make all arrangements for extending price support and also to organise mobile purchase teams in Uttar Pradesh and Orissa. The Union Food Department is closely monitoring the procurement progress and advising the State Governments to take appropriate remedial measures, wherever required. The success of these measures can be seen in the fact that procurement in States other than Punjab so far was higher than last year by 7.83 lakh tonnes. □ □ □

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How can we raise rice production

Dr. S.S. Khanna & Dr. M.P. Gupta

This is a detailed study on rice production in India in respect of its area, production and yield per hectare. The authors here lament that the much-publicised Green Revolution could not make the desired dent into the traditional rice-growing States of the eastern region. The per hectare productivity of rice in this region is much lower than the all-India average. The authors call for developing disease-resistant varieties of rice and need-based application of insecticides/fertilizers to ensure achievement of the Seventh Plan target of rice production.

IN INDIA, THE RICE CROP ACCOUNTS FOR the largest area under any single crop On an average, the area under rice forms about 39 per cent of the total area under cereals, about 31 per cent of the total area under foodgrains and about 22 per cent of the total cropped area The total production of rice in the country forms roughly 46 per cent of the total production of cereals and 41 per cent of the total production of foodgrains

Food consumption in India is dominated by cereals which account for about 2/3rd of the total calorific value and a somewhat smaller proportion of the protein-content of the average diet Among the cereals, rice occupies the most important position though there is a considerable degree of diversity in the composition of cereals in the diet in different regions owing, mainly, to the geophysical factors which condition the pattern of production. Of the total consumption of cereals, roughly one-half is represented by rice, about one-fourth by wheat and the remaining one-fourth by millets.

Nutritive value

Like other cereals, rice is essentially an energy-giving food, rich in starch. The protein content of rice is relatively poor. The coarse and coloured varieties of rice are generally richer in protein than the fine-grained types. The following table gives an approximate nutritive composition of rice.

Table 1

Composition of Rice

Constituents	*Brown Rice*	*Hand-pounded (under milled)*	*Milled Rice*	*Rice Bran*
		(per 100 gm	*edible portion)*	
1	2	3	4	5
Protein	gm 7 5	7 5	6 8	13 5
Fat	gm 1 7	1 0	0 5	16 2
Fibre	gm 0 6	0 6	0 2	4 3
Other Carbohydrates	gm 77 1	76 7	78 2	48 4
Minerals	gm 1 1	0 9	0 6	6 6
Calories	gm 360	345	345	395

The composition of nutrients in rice, differs with variety Some nutrients are lost in the process of milling The protein content of rice, though quantitatively low, compares favourably with other cereals in amino-acid content and digestibility.

Trends in per capita availability

The availability of rice as well as total cereals has shown improvement in recent years mainly as a result of higher domestic production Between 1971-85, net availability increased by 7.25 per cent for rice while it declined by 1.18 per cent for all cereals taken together The increase in overall availability has, to a considerable extent, been absorbed by the growth in population The per capita availability of rice and cereals since 1971 is shown in the Table-2.

The per capita availability of rice which was 70.3 kgs in 1971 declined to 58.0 kgs in 1975 and subsequently after increasing to 73.11 kgs in 1979, it slumped to 60 8 kgs in 1980 In the year 1985, it has again increased to 75 4 kgs Similar fluctuation in per capita availability of total foodgrains is also witnessed during the same period

Trends in area and production

Rice is primarily a wet crop. It is, therefore, cultivated mainly in irrigated areas or areas with assured rainfall The irrigated area under rice has increased from 32.3 per cent in 1949-50 to as high as 41.9 per cent in 1982-

83. Among the various States, the lowest irrigated area under rice is in the State of Madhya Pradesh which is 18.4 per cent. The States of West Bengal, Uttar Pradesh, Bihar, Orissa and Maharashtra account for less than 30 per cent coverage under irrigated conditions while in Karnataka, the irrigated area under rice is about 61 per cent. In the States of Tamil Nadu, Andhra Pradesh, Haryana and Punjab, irrigated area under rice is more than 90 per cent. Actually, almost all the rice grown in Punjab is under irrigated conditions as the irrigated area under rice in this State is as high as 98.5 per cent. The average production of rice during different Five Year Plans has shown steady growth. During the First Plan, the average production was 25 million tonnes which increased to 30.3 million tonnes in the Second Plan, to 35.1 million tonnes in the Third Plan, to 41.8 million tonnes in the Fourth Plan, to 47.3 million tonnes in the Fifth Plan and to 58.4 million tonnes in the Sixth Five Year Plan.

Table 2

Per Capita net availability of rice and foodgrains in India

	Rice		*Foodrains*	
Year	*Kgs/year*	*Gms/day*	*Kgs/year*	*Gms/day*
1	*2*	*3*	*4*	*5*
1971	70 3	192 6	171 1	468 8
1972	72 4	197 8	170 6	466 1
1973	62 8	172 0	153 9	421 6
1974	69 5	190 4	164.7	451 2
1975	58 0	158 9	148 0	405 5
1976	68 5	187 2	155.3	424 3
1977	61 6	168 8	156 8	429 6
1978	71 6	196 2	170 8	468 0
1979	73 1	200 3	173 9	476 5
1980	60 8	166 1	150 2	410 4
1981 *	72 0	197 3	165 6	453 7
1982 *	70 3	192 6	165 7	454 0
1983 *	61 9	169 6	159 3	436 4
1984 *	72 1	197 0	174 9	477 9
1985 *	75 4	206 6	169 1	463 3

* Provisional

The all-India productivity per hectare of rice was 771 kgs in 1949-50 which increased to 1552 kgs in 1985-86 and it declined to 1482 kgs in 1986-87 Among the States, Punjab has shown more than 3000 kgs/ha yield since 1982-83 and it reached to a level of 3329 kgs/ha during 1986-87 In Haryana, the yields were more than 2500 kgs/ha since 1980-81, the highest being 2797 kgs/ha recorded in 1985-86 Among the major rice producing States, Madhya Pradesh has yield level of less than 1000 kgs/ha except in 1985-86 when it was 1077 kgs/ha In Andhra Pradesh, the yield level is around 2000 kgs/ha whereas in Tamil Nadu since 1984-85 it has increased from 2138 kgs/ha to 2781 kgs/ha in 1986-87. All other States have either somewhat higher yield levels as compared to the all-India level or below it.

The yield rates of rice in India vary considerably from region to region and even from State to State in the same region. The yield per hectare is generally higher in the States falling in the southern region. In the States of eastern region, while yield rates in Assam and West Bengal compare somewhat favourably with those in southern region, they are very low in Bihar and Orissa. In Madhya Pradesh in the western region, and in Uttar Pradesh in the northern region, the yield rates are again low but in Maharshtra they are generally higher. Yield rates of rice have also attained new peaks in Punjab and Haryana in recent years.

The estimated production of rice in the last year of Sixth Five Year Plan (1984-85) was 58.4 million tonnes as against the Plan target of 63 million tonnes. Although production performance of rice in the north eastern and western States had been quite satisfactory during 1985-86, it was reported to have suffered a serious set-back due to deficiency of rains in Andhra Pradesh, Karnataka, Gujarat, Rajasthan and parts of Maharashtra.

The output of rice after declining to 58.34 million tonnes during 1984-85 from a record level of 60.10 million in 1983-84 touched a new peak of 64.15 million tonnes during 1985-86. The level of production would have been still higher but for the prolonged dry spell particularly in the States of Karnataka, Gujarat and West Bengal which not only delayed the sowings and reduced acreage in these States but also adversely affected the yield in Karnataka and Gujarat. During the year, the average productivity increased by 111 kgs over the earlier highest level achieved in 1983-84 to touch a level of 1568 kgs/ha Of the total incremental output of 5.81 million tonnes during 1985-86 over that in 1984-85, about 70 per cent was contributed by Madhya Pradesh, Uttar Pradesh and Orissa.

During 1986-87 season, the output of rice was reported to have been adversely affected as a result of drought and floods in several States and the total production turned out to be lower than that in 1985-86. Thus, the production of rice in the remaining 3 years of the Seventh Five Year Plan had to be stepped up by 3-4 million tonnes each year to achieve the Plan target.

The worst drought in several parts of the country and recurring floods in Assam, West Bengal and Bihar during the kharif season of 1987-88, shattered all the expectations of realising the targetted production of kharif foodgrains. During 1987 monsoon season, only 14 sub-divisions out of 35 meteorological sub-divisions received normal or above normal rains as against 21 sub-divisions during the corresponding period in 1986 which itself was a drought year.

The drought conditions during the kharif season of 1986-87 in several parts of the country not only brought down the coverage under the crop but also adversely affected its productivity. As a consequence, the production of rice in 1986-87 at 60 42 million tonnes was not only below the target of 65 million tonnes but also far short of 1985-86 production of 63.83 million tonnes (Table 3). The rice crop received a further setback under the impact of one of the worst droughts experienced during the kharif season of 1987-88. From the available information, it seems that the rice production in 1987-88 was 56.43 million tonnes which

Table 3

Rice : Area, Production and Yield

Area : '000 hectares
Production : tonnes
Yield : Kgs. per hectare

State	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87
1	2	3	4	5	6	7	8	9	10	11
Andhra Pradesh										
Area	3662	3979	3469		3824	3638	4164	3498	3452	3432
Production	5605	7432	6307	7011	7868	7671	8791	6909	7614	6743
Yield	1530	1868	1818	1947	2058	2109	2111	1975	2206	1965
Assam										
Area	2251	2241	2131	2275	2259	2302	2312	2325	2464	2287
Production	2311	2172	1881	2523	2236	2583	2515	2438	2847	2385
Yield	983	984	705	1015	990	1112	1087	1049	1155	1043
Bihar										
Area	5589	5579	5099	5551	5368	4498	4901	5173	5315	5365
Production	5495	5490	3595	5635	4257	3065	4967	5377	6016	6009
Yield	983	984	705	1015	793	681	1013	1039	1128	1120
Gujarat										
Area	484	459	458	478	499	476	540	566	492	511
Production	669	535	437	557	737	489	754	838	454	451
Yield	1384	1164	954	1166	1476	1027	1396	1480	923	883
Haryana										
Area	371	459	509	472	506	489	533	557	585	628
Production	965	1228	942	1228	1250	1275	1325	1363	1636	1543
Yield	2601	2678	1851	2602	2470	2607	2486	2447	2797	2457
Himachal Pradesh										
Area	88	99	92	110	94	88	93	95	91	96
Production	114	123	80	125	96	73	112	117	125	106
Yield	1292	1247	874	1138	1030	828	1292	1236	1374	1104
Jammu & Kashmir										
Area	259	267	268	265	265	274	276	275	266	267
Production	522	546	483	546	551	575	593	569	587	590
Yield	2014	2043	1804	2065	2082	2094	2151	2069	2207	2210
Karnataka										
Area	1096	1098	1174	1101	1168	1111	1194	1183	1096	1112
Production	2281	2175	2370	2208	2364	2101	2292	2375	1974	2173
Yield	2082	1980	2019	2006	2025	1891	1920	2007	1773	1954
Kerala										
Area	840	799	793	802	807	779	740	730	678	664
Production	1295	1265	1293	1272	1340	1306	1208	1256	1173	1134
Yield	1540	1583	1630	1587	1660	1678	1632	1711	1730	1708
Madhya Pradesh										
Area	4733	4821	4770	4860	4850	4863	4947	4957	5032	5009
Production	4438	3562	1825	4053	3830	3451	4799	3761	5418	4272
Yield	938	739	383	834	790	710	970	759	1077	853
Maharashtra										
Area	1499	1498	1485	1504	1515	1486	1521	1520	1541	1527
Production	2344	2201	1828	2361	2435	1949	2461	1936	2182	1752
Yield	1563	1469	1231	1570	1607	1311	1617	1275	1416	1147
Orissa										
Area	4450	4372	4117	4191	4159	4058	4356	4304	4402	4394
Production	4319	4402	2918	4301	3853	2992	5121	4172	5226	4834
Yield	981	1007	709	1026	926	737	1176	969	1187	1100
Punjab										
Area	831	1052	1167	1178	1270	1319	1481	1644	1714	1809
Producation	2494	3091	3041	3223	3755	4147	4536	5052	5449	6022
Yield	3001	2938	2606	2736	2957	3144	3063	3073	3179	3329
Rajasthan										
Area	184	211	186	170	140	118	160	170	131	147
Production	237	234	100	150	139	88	218	213	119	129
Yield	1286	1112	540	881	991	740	1358	1253	908	878
Tamil Nadu										
Area	2782	2757	2906	2230	2467	1889	2353	2508	2264	1918
Production	5705	5559	5800	4159	5607	3504	4466	5362	5371	5333
Yield	2050	2017	1996	1865	2273	1855	1898	2138	2372	2781
Uttar Pradesh										
Area	4867	5147	5052	5292	5389	5063	5352	5506	5587	5332
Production	5203	5964	2553	5570	5898	5645	6776	7157	8315	7259
Yield	1069	1159	505	1053	1094	1115	1266	1300	1488	1361
West Bengal										
Area	5425	4765	4905	5176	5210	4862	5373	5199	5079	5376
Production	7495	6677	5887	7466	5833	4949	7940	8093	7991	8463
Yield	1382	1401	1200	1442	1120	1018	1478	1557	1573	1574
All-India										
Area	40283	40482	39414	40152	40708	38262	41244	41159	41137	40774
Production	52670	53773	42330	53631	53248	47116	60097	58337	63825	60416
Yield	1308	1328	1074	1336	1308	1231	1457	1417	1552	1482

turned out to be substantially lower than that in 1986-87. Thus, during the first three years of the Seventh Plan, it is only in 1985-86 that the production target of rice could be achieved. Since then, the production has been declining. Even taking a longer period in view, it is observed that between the quinquennia ending 1981-82 and 1986-87, the output of rice increased by about 7 million tonnes only i.e. from an average of 51.13 million tonnes to 57.96 million tonnes. Thus, if the revised Seventh Plan target of rice output placed at 71.7 to 72.7 million tonnes is to be achieved, all-out efforts have to be made for a quantum jump in rice production during 1988-89 and 1989-90

The compound growth rate of area, production and yield of rice between 1949-50 to 1984-85 was 0.1, 2.48 and 1.54 per cent respectively During the pre-Green Revolution period, i.e. from 1949-50 to 1964-65, the compound growth rates of area, production and yield were of the order of 1.33, 3.49 and 2.13 per cent respectively. In the post-Green Revolution period of 1967-68 to 1984-85, the compound growth rates of area, production and yield were 0 66, 2.37 and 1.74 per cent respectively. This growth rate during post-Green Revolution period when compared with that of wheat is very low In case of wheat, these growth rates were of the order of 2.58, 5 70 and 3.04 per cent respectively.

Need for increasing rice production

The foodgrains requirement of the country by 2000 A.D. is estimated to be 225-235 million tonnes. The total demand of rice by 2000 A.D has been worked out at 80 7 million tonnes, whereas the gross production and self-sufficiency requirements have been estimated at 90.2 and 95.9 million tonnes, respectively.

The adoption of area approach would help in achieving the above production targets for the coming Five Year Plans The strategy would be different for different areas such as (a) areas which have low yields but high coverage, e.g., the States of Assam, Bihar, Madhya Pradesh, Orissa, West Bengal and Uttar Pradesh, (b) areas which have high productivity and lower areas e g., the States of Haryana and Punjab, and (c) areas of moderate productivity and moderate coverage, e.g., the State of Gujarat, Karnataka, Kerala and Maharashtra. Substantial increase in rice production would be needed to match its contribution to total foodgrains production and in building up buffer stock based on area under rice cultivation. The need assumes urgency in respect of eastern States of Assam, Bihar, Madhya Pradesh, Orissa, Uttar Pradesh and West Bengal where 48 per cent of the population lives and 56 per cent of this, is below poverty line. This region has 66 8 per cent of the total rice area in the country but contributes only 48.7 per cent of the production. The average productivity of 951 kgs/ha in this region is also below the national average of 1308kgs/ha. Increase in rice production in this region will accelerate the overall economic activity of the region and bridge the widening gap of regional disparities.

The revised Seventh Plan target of rice production has been fixed at 71.7 to 72.7 million tonnes over the assumed base level production of 55.25 million tonnes or an additional production of 16.45 to 17.45 million tonnes. Out of this, about 4 million tonnes will come from increase in area from 40.7 million hectare to 43 million hectare and the balance 12.45 million tonnes would be achieved by increasing the productivity from 1308 kgs/ha (1981-82) to 1744 kgs/ha by the end of the Seventh Plan.

Out of the total area of 43 million hectares projected under rice for the Seventh Plan, 21 million would be irrigated and the balance 22 million ha unirrigated. It is presumed that the average productivity of irrigated area would increase to 2320 kgs/ha and that of unirrigated area to 1200 kgs/ha.

[illegible]

The inception of High Yielding Varieties era in the country negotiated the changes in the crop production technology and cropping pattern The improved crop production technology and high yielding varieties ushered in green revolution and revolutionised the agriculture in the country However, Green Revolution could not make much impact in traditional rice growing States in the Eastern Region as its fruits remained limited to wheat growing States. The first Green Revolution bypassed the Eastern, North-eastern and Central India. Uttar Pradesh, West Bengal, Bihar, Orissa, Madhya Pradesh and Assam which cover about 2/3rd of the total rice area in the country produce only 50 percent of the total rice. The per unit productivity of rice in these States is much lower as compared to all-India average.

Factors affecting the production and productivity of rice in these States are numerous. The main reasons for low yields are. poor level of adoption of production technology, less input use, dependence of rice crop on monsoon and poor infrastructural facilities. In these States, only 18-34 per cent of rice area is irrigated and coverage under high yielding varieties is 31-48 per cent and per hectare application of fertiliser except in Uttar Pradesh is also very low.

The lower growth rate in agriculture during the Sixth Plan and earlier in these States has created the disparity in development. As rice is the back-bone of these States, the faster and higher growth of rice is a must. To bring alround development and remove the regional imbalances, the Prime Minister's Economic Advisory Council suggested for implementing the rice production programme in these States

A Pilot Project on Rice Production as fore-runner to the Special Rice Production Programme (SRPP) was taken up during 1983-84 in 51 selected blocks of these States. The objective of the Pilot Project was to identify the constraints in the way of higher rice production. Under the Project, efforts were made to improve the supply position of inputs like seeds, fertiliser, pesticides, farm machinery, etc. Some work on improvement of irrigation and drainage was also taken up. Against a sanctioned allocation of Rs. 500 06 lakh for

this Pilot Project, only a sum of Rs. 379.14 lakh was utilised.

The operation of the Pilot Project created a general awareness amongst the farmers and aroused the eagerness for adopting the improved rice production technology. The efforts made under the Project led to increase in coverage of area under high yielding varieties, consumption of fertilisers and adoption of improved package of practices with integrated pest management approach. The impact of the programme became visible not only in the selected blocks but in other neighbouring blocks also. The Project blocks recorded better rice yields.

On the basis of the experience gained and constraints identified in different blocks during the operation of the Pilot Project in 1984-85, a full scale project was started from Kharif 1985-86. The programme was implemented in 420 selected blocks instead of 417 selected initially as the Government of West Bengal implemented the programme in 70 selected blocks with the financial outlay approved for taking up the programme in 67 blocks.

The implementation of this Project in Eastern States has created awareness about the adoption of improved rice production technology and made good impact on rice production. Some of the notable features of the Project implementation are as under—

(i) During the first year of the implementation of the Programme, 1985-86, there was additional production 48.1 lakh tonnes of rice in six Eastern States over the previous year of 1984-85, whereas in other States/UTs, the increase was only of the order of 6.7 lakh tonnes.
(ii) Despite the severe drought conditions and floods in Assam, Bihar and West Bengal during 1986-87 and 1987-88, there was stability in production of rice.
(iii) The share of six SRPP States in total rice production increased from 51 per cent during the triennium ending 1984-85, to 55 per cent during the triennium ending 1987-88.
(iv) The SRPP States recorded 17 per cent increase in production and 13 per cent increase in productivity during the triennium ending 1987-88 as compared to the triennium ending 1984-85, whereas in other States/UTs, the increase in total rice production was only 0.5 per cent and in productivity 6.0 per cent.

Special Foodgrains Production Programme

Subsequent to Mid-term Appraisal of the Seventh Five Year Plan, a Task Force was appointed to undertake an indepth study for achieving the targets of foodgrains production in the remaining two years of the Plan by framing a Framework Action Plan. A Special Foodgrains Production Programme (SFPP) was prepared for 169 districts in 14 States. The SFPP in six eastern States was extended to all the blocks in the selected districts including 63 districts identified under SFPP. During 1988-89, this scheme was implemented on 100 per cent assistance from the Government of India.

Seeds

It was the import of IR-8 and TN-1, the first of miracle rice, from the Phillipines and Taiwan that doubled the yields of rice. A top level team of scientists drawn from several countries had developed this cosmopolitan dwarf rice strain as a result of 10,000 collections from different countries of the world. Unfortunately, the output of rice has not been rising so dramatically because rice breeders have been less successful in developing high yielding varieties well-adapted to the country's conditions. IR-8 crop was attacked by many diseases and its yield fell down in mid 1970's. It was natural and the normal life span of a variety was 5-7 years, which it had more than completed.

Table 4

Improved Rice Varieties recommended for different States

State	*Varieties*
1 Andhra Pradesh	Dhanya Lakshmi, Rajdendra, Pushkala, Tellahamsa, Srinivas, Rasi, Vikas, Sasyasree, IET 8890, IET 7585, Prabhat, Surekha, Vamshi, Vikramarya, Sonasali, Phalguna, Swarna, Vajram, Sowbhaghya, Manasarovar, IET 7590, 7591, 6315
2 Assam	TTB 417, IET 9976, 9576, 9815, 8890, Rasi, Manoharsali, IET 7571
3 Gujarat	CR 138-928, GR 11, IET 9576, 9976, 8890, GR 4, GR 101, GR 102, SLR 51214, IET 4141, Sonasali
4 Jammu & Kashmir	K 84, Barkat, Pc 19, IET 9107, 9599, 84939, 9976
5 Haryana	Vikas, IR 64, IET 9976
6 Himachal Pradesh	Himadhan, Himalaya-1, Himalaya-2, IET 8390-HPU 2202 IET 8401-HPU 5101 HPU 2211, IET 8594-Himalaya 741
7 Karnataka	Madhu, Vikas, Sasyashree, Karna, Mandyavai, Prakash, Sonasali, IET 5914, Abhilash, Intan, Phalguna, IET 7590, IET 7591, IET 7191
8 Kerala	Pavizham, Ashar
9 Madhya Pradesh	Deepti, Vikas, IET 9815, IET 9976, IET 8890, Garima, Jagriti, Pragati, Usha, Sonasali, IET 8116, Vikramarya, Kranti, Samridhi, Bhalguna, IET 7591, IET 6080, IET 7251
10 Maharashtra	Ratnagiri-1, Sye 75 IET 9976, Vikas, Sonasali, Phalguna
11 Orissa	Rudra, Shankar, IET 9976, IET 9815, IET 9576, IET 8890, Gauri, Daya, Pratap, IET 7946, IET 8655, Rambha, Samelei, Utkal Prabha, IET 7590, Mansarovar.
12 Punjab	PR 103, PR 106, RS 4141, IET 8116, IET 8110, IET 8585
13 Rajasthan	BE 79, BK 190, Chambal, Sonasali.
14 Tamil Nadu	ASD 16, IR 50, Adt 36, IET 9615, IET 9976, IET 8890, Bhagawathi, Co 42, Ponmani, Ponni (Mahsuri), Mansarovar, IET 7251, IET 7590
15 West Bengal	Khitish, Kunti, Vikas, Sasyasree, Mansarovar, Swarnadhan,
16 Uttar Pradesh	Sarjoo 50, Govind, Manhar, Pant Dhan 4, Vikas, Sasyasree, IET 9976, IET 8890, IR 36

Now again, there is a vaccum. The PR-106 variety has become victim of the white backed plant hopper and other pests. It has remained no longer remunerative to the growers. The follow-ups-PR-108 and PR-109 varieties failed in the very first year of their release. There is a need of variety which has the yield potential of PR-106. A variety brought by a private farmer in Tarai area has picked up and occupied a substantial area in the North West Zone of the country. No tests have been made by any scientist on this variety which is named as 'Indrasan'. The improved rice varieties recommended for different States are presented in Table. 4.

Hybrid rice

Hybrid rice is occupying 1/3rd of the rice area in China since late 1970's. It had given yield 15-20 per cent higher than the currently avilable high yielding dwarf varieties. The findings of International Rice Research Institute and other sources also confirm the yield superiority of hybrids. Prospects of exploiting hybrid vigour in rice were recognised by Indian Scientists as early as 1960's and 1970's. Yet, no organised research to develop hybrid rice technology could be initiated Only China developed successfully this technology and has been exploiting commercially since late 1970's. Efforts initiated since then in India, also did not yield any tangible results due to non-suitability of the Chinese parental lines for direct exploitation and inadequate infrastructure and institutional support for aggressive research to develop the technology to suit our needs.

Subsequent experimental evidence on distinct yield superiority of hybrids, stability of yield performance over a wide range of conditions and increasing prospects of better cost-benefit ratio following development of improved seed production technique, prompted India to revive its interest on hybrid rice in 1980-81 in collaboration with International Rice Research Institute. A beginning was made by training Indian scientists in China on hybrid rice techniques. Basic breeding materials were obtained from China and hybrid rice research was undertaken at 8 different locations. Renewed efforts are again being made to lay a major thrust on hybrid rice technology by formulating project in collaboration with UNDP. It is hoped that in near future, new hybrids would be available which substantially increase rice productivity in the country.

Fertilizer

The average fertiliser consumption on rice in the country was 50.1 kgs during 1985-86. Punjab reported average consumption of 159.9 kgs of fertiliser per hectare followed by Tamil Nadu where the per hectare fertiliser consumption was 110.8 kgs/ha. In Uttar Pradesh, Haryana, Andhra Pradesh, West Bengal, Kerala and Karnataka, the per hectare fertiliser consumption was of the order of 81.4, 70.2, 69.6, 58.4, 49.8 and 49.2 kgs respectively. In Madhya Pradesh, Assam and Orissa, which are important rice growing

Plant protection

Rice crop is generally infested by many pests and diseases which reduce the yields substantially. In order to overcome these, plant protection measures may be adopted to control individual pests and diseases. In any intensive rice production programme, it is necessary to utilise ecologically sound plant protection technology, involving an effective integration of all compatible methods. A combination of resistant variety to specific pests/diseases and need-based application of insecticides or fungicides to control other pests or diseases is an economic pre-position for stabilising yields. In this overall approach, proper monitoring through surveillance programme is very important.

Future strategies

The following strategies may be adopted for enhancing rice production and productivity in the country:—

(i) Crop and variety planning based upon well delineated agro-climatic zone is going to be the most vital aspect in enhancing production and productivity of rice. The Planning Commission have already delineated the country into 15 agro-climatic zones and have initiated studies in each zone.

(ii) It is also desirable to initiate crop planning on watershed basis in various agro-climatic zones.

(iii) Research efforts be intensified for developing technology for specific areas in different agro-climatic zones with a feed-back information system.

(iv) Hybrid/high yielding varieties suited for various agro-climatic zones which should be physiologically resistant and to pathogen, insect, pest, disease and nematodes be developed.

(v) Development of varieties having characters for growing in deep water conditions and under drought conditions may be initiated.

(vi) Research in determining the most effective weedicides for controlling broad spectrum of weeds is a must.

(vii) Suitable and effective insecticides, pesticides and fungicides may be developed for controlling the various pests and diseases attacking the crop.

(viii) Continued research is also required on socio-economic aspects of rice farmers so as to determine how the recommended advances in crop technology may be adopted by these farmers majority of whom are poor.

(ix) Suitable credit support may also be provided to rice farmers so that they are able to purchase the required inputs at appropriate time and apply them in suitable doses.

(x) Efficient market support may also be provided to rice farmers so that they are able to get remunerative prices for their produce and give them enough incentives to adopt new technology for increasing the production. □ □ □

Fight TUBERCULOSIS

1. If you are having continuous cough for more than two weeks or if you notice blood in sputum, may be, you are suffering from T.B. of lungs.

2. Get yourself examined especially your sputum at the nearest Primary Health Centre, Dispensary or T.B. Centre.



3. T.B. can be cured provided medicines as advised by the doctor are taken regularly for the prescribed period.

4. Prevention is always better than cure. So get your child vaccinated with B.C.G.

Central Health Education Bureau (D.G.H.S.)
Min. of Health and Family Welfare, Kotla Road,
New Delhi-110002.

davp 88/729

Tackling world rice crisis

Dr. Badar A. Iqbal

The author here expresses his anguish at the unprecedented trend of rise in the prices of rice all over the world and suggests four-point strategy to end this crisis. This strategy, according to him, should include a common approach on the basis of 'give and take' by major producing and consuming countries; replacement of rice by wheat and maize by the rice consuming nations; formation of common pool by major producers; and bilateral agreements and counter-trade among these countries.

THESE DAYS RICE IS UNDER HEAVY ODDS. Due to the bad crop in the major producing countries, prices of rice are rising at a very faster rate. In 1984 total world rice production stood at nearly 454 million tonnes. In 1985 it increased to more than 468 million tonnes i.e. a rise of 3.1 per cent. In 1986, world rice output reached a figure of more than 470 million tonnes-an increase of 0.4 per cent over the figure of 1985. But an over all increase between 1984 and 1986 stood at 3.5 per cent. Thereafter, rice production started looking down. From a figure of more than 470 million tonnes in 1986, the total world rice production came down to 466 million tonnes in 1987-a decline of nearly 0.9 per cent. Similarly, in 1988 it has gone down further by nearly 5 per cent i.e. from 466 million tonnes to nearly 443 million tonnes over the figure of 1987. If we calculate decline in 1988 over 1984, then the over all decrease comes to 2.4 per cent. This all shows that the over all increase or decrease between 1984 and 1988 is not much, but it has affected more the price horizon.

Imbalances

The said trend has created imbalances in the world trade of rice and endstocks are also looking down these years. In 1984 total world trade of rice stood at 12.3 million tonnes In 1988 it came down to 10.3 million tonnes. This means the total world trade of rice showed an over all decrease of 18.3 per cent during the said period. The year 1986 was the best year for world rice trade when total trade in rice stood at 12.8 million tonnes. Thereafter, declining trend set in. Similarly, total world rice endstocks in 1984 were 17.2 million tonnes. This figure went up to 22.3 million tonnes in 1985-an increase of 29.7 per cent. In 1986 the figure reached a record level of 26.3 million tonnes i.e. an increase of 53 per cent over 1984. Since 1987 trend in world rice endstocks started dwindling. The decline in the rice endstocks between 1986 and 1987 stood at 7.6 per cent. But in 1988 there is an alarming depletion in rice endstocks and the decline is as high as 30 per cent. So these ups and downs made prices in the world market to go up sharply affecting adversely the major producing and consuming countries in the world.

Trend analysis

If we analyse the trend between 1984 and 1988, we see that total world rice production went down by 2.5 per cent. Similarly, total world rice trade decreased by 18.3 per cent and total world rice endstocks showed a decline of 1.2 per cent during the period of 1984 and 1988. This all indicates that the most affected activity is the world rice trade. As compared to world rice trade, world rice production and world rice endstocks are not much distrubed. But if this trend continues then in the long-term there will be far reaching impact on production and endstocks of rice.

According to USDA, world production of rice has gone down by 4 to 5 per cent over the past three years and world trade in rice in 1988 declined by 18 to 21 per cent over 1987. This has created imbalances in demand and supply of rice resulting in sharp rise in the prices over previous years. In Jan. 1985, the prices of rice went up as high as US $ 310 per tonne showing an over all increase of nearly 41 per cent. Rice prices began to go up from September, 1987 when it was certain that crops would not be good enough due to bad weather conditions in major producing nations. In last Feb. prices for 100% B white rice stood at US$ 220 per tonne. These prices shot up to US$ 263 per tonne in last September showing an increase of 19.5 per cent. They again went up to US$ 310 per tonne-a rise of 18 per cent in Feb. 1988. This means rise between Feb. 1987 and Sept. 1987 was higher than the rise between Sept. 1987 and Feb. 1988. The rise in this period is also marginally lower. Similarly, price of preboiled rice also went up considerably because of the bad weather in Bangladesh, India and Africa. During last Feb. (1987) the price of preboiled rice stood at US$ 180 per tonne

(Contd. on page 14)

A better water delivery system

V.K. Dhar

In the wake of growing demands for various utilities, the author here analyses the water delivery system in urban and rural India; the roles of state and local agencies in this system and the advantages and drawbacks of bulk/retail distribution. No system is in itself fool-proof and the author feels that both state and local agencies should supplement and complement each other's efforts to ensure better service to consumers.

INFRA STRUCTURAL SERVICES DIFFER greatly from one another in form, cost and management. Some, like water, roads and electricity supply, are highly articulated systems which require massive capital investment before they can become operational. Others, such as schools, clinics and libraries, are disaggregated services which can be provided incrementally as required, or as resources permit. Furthermore, they differ in that some give rise to heavy operating costs, whereas others do not. However, charging and management patterns and policies are not well matched to the nature of the service provided with the result that provision and maintenance does not keep pace with the needs of growing settlements.

Role of state/local agencies

In India, Water Boards at State level provide and maintain the water supply upto the consumer point in some cases while in others it provides the water supply upto the bulk point and eollects the charges for bulk supply from the local authority which in turn maintain the distribution of water supply within the urban area. It is in this context that a crucial issue arises as to the role of State level functional agency and the local agencies in regard to the utilities and development.

The prime question that comes up is whether the local bodies who from the very nature of their functioning were entrusted with the obligatory function of providing water supply, sanitation, and public health service to the population under their jurisdiction, should now hand these functions over to the state level agencies in the interest of greater efficiency, better service, better resource mobilisation, technical performance. etc. and what could be the resultant effect on the local bodies which would be left with few tasks to undertake on behalf of the people who elected them as their representatives and what voice these local bodies would have in the provision and management of the basic services provided by the state or sub-state level functional agencies.

The growing demand for utilities

Planning, development and management of utilities for urban areas on the scale it is required to be organised today poses complex organisational and technological problems. The utility systems unlike previously have to be viewed in a totally different manner because of the scale of the services to be provided. For instance, a few decades ago water supply for small towns could be organised independently for each town with water resources available within the town or in its vicinity. However, as the town grew into a city and then into a conurbation, large quantities of water required had to be brought from longer and longer distances and the local supply no longer sufficed. The quality of the water provided had to be ensured to be suitable for drinking and even if ground water was avilable in adequate quantities, it could not be taken for granted that it would meet the requirements. Thus, the utility systems are being conceived not only for one city or town but for a number of towns, cities and also rural areas. The availability of water not only for drinking but also for other basic purposes such as industry and agriculture has to be ensured. Again in regard to the disposal of liquid and solid wastes from an urban area the system had to be viewed in the larger context of possible water and air pollution in the entire region and not merely that of throwing the wastes outside the limits of the one urban centre. The resources management compulsions such as waste re-utilisation, reconditioning and re-circulation of used water etc. have once again emphasised the inter-dependency of the urban units within a region on one another and also with the surrounding rural areas.

Thus, the utility systems have outgrown both the jurisdictional as well as capability limits of the local bodies. Once this is accepted as compulsion of urban growth, the apparent anomaly of states functional agency coming into conflict with the function of the local body cannot arise. Further, there is the advantage of the

economics of scale of operation in favour of the systems being organised at the regional or state level. Therefore, there cannot be two views in regard to the bulk supply and bulk distribution being organised at the state or sub-state level by functional agencies set up specially for the purpose and there need be no conflict between such bulk handling agencies and the local bodies.

Let both agencies work together

On the other hand, the basic principle of the local self-government requires that the people themselves manage the services they need and can afford to have and pay for it fully without any manner of support from the state. If this is to be achieved, the state level or regional level functional agencies will need to organise themselves as wholesale distributors or collectors of utility services and charge on a commercial basis the various local bodies for the services they render to them. The state should revamp its local body auditing and supervision function so that weakness are discovered well in advance and action taken on a purely non-political managerial basis. If once the state level agencies start operating the utilities down to the consumer level, there is likely to be complete irresponsibility at the local body level, and ultimately the state may have to bear the entire burden of providing all the utilities. This dangerous trend may lead ultimately to a total abdication of responsibility by the local body and an enormous burden on the state for providing the services without any assurance of these being paid for.

The Karnataka experience

In Karnataka, the Karnataka Water Supply & Drainage Board (KUWS & D. Board) is maintaining the 11 Water Supply Schemes which were transferred to the Board under various Government orders, out of which 6 schemes are being maintained upto bulk supply point and water is supplied in bulk to the Municipality/Corporation at specified water rates in force from time to time. The water rates are fixed on no loss no profit basis for the water supplied to the local bodies. In respect of the rest of the 5 schemes, the Board has got the responsibility to supply water direct to individual consumer, bill and collect the water charges. The water charges in respect of public stand posts in these 5 towns are payable by the respective local bodies to this Board. However, the Board is incurring heavy losses on maintenance of this water supply schemes. The revenue realised by way of water rates falls short when compared with actual M&R expenditure of these schemes.

Since the Board has experienced irregular payments from the municipalities for the water supplied to them, the Government is deducting some portion of the octroi grant and transferring the same to the Board in order to meet the dues of water charges. However, the amount received from the octroi grant is also found to fall short of the full demand of water charges payable by local bodies. In view of this, a major portion of the grants earmarked for plan funds gets diverted to the non-plan maintenance works affecting the progress of plan works.

A recent study conducted by NIUA, in selected bulk and retail urban Water Supply Schemes maintained by Karnataka Water Supply & Drainage Board (KWS & DB) reveals that though the current efficiency ratio is found to be marginally better for bulk supply schemes the total efficiency ratio of bulk supply schemes is 2 times more than that of retail supply schemes. Further, in the collection and the recovery ratio in terms of actual maintenance and repair expenditure, the bulk supply schemes seem to perform significantly better than the retail supply schemes.

Advantages of retail distribution

The issue, however, is in regard to retail distribution of these utility services amongst the population in the different urban areas and whether such retail distribution is not better accomplished by the local body who would become a bulk buyer and distributor of the commodity or service. Such an arrangement would have the following advantages:

(i) The local bodies being elected would be more responsive and responsible to the needs of the people.

(ii) The local bodies should be able to manage more efficiently retail distribution services, being a smaller body and therefore, with better attention to details, supervision and dealing with complaints.

(iii) The local body has to provide in any case certain general amenities in the way of street lighting, public lavatories, public hydrants for drinking, cleaning of drains and gutters, fire-fighting, cleaning of streets, markets and other public places, managing community centres, etc. and the cost of providing utility services to these functions have to be paid for by the local bodies and for that purpose they are even today bulk consumers. Therefore, there is no harm in the local body being elevated as the sole bulk buyer and distributor of the commodity in the urban area under their jurisdiction.

(iv) The taxes for providing the general services is collected by the local body from the urban population either as part of property tax or separately. So it is more convenient for the local body to collect water rates, sanitation rates, electricity charges etc. and savings through improving the efficiency of the distribution systems will accrue to the local body which gets distributed amongst the beneficiaries.

The drawbacks

However, presently, constituted as they are the local bodies face certain disabilities listed below:

(i) The management efficiency of the local body is very poor and they do not have adequate technical or managerial personnel.

(ii) There is likely to be corruption in the distribution of the services and inequality in the level of services and personal influence may play havoc

with the quality of services rendered to the consumer.

(iii) Members of municipal council who are elected representatives tend to favour their own areas and depending upon the power equations in the municipal council, all areas within the town or city may not get the same level or quality of services.

(iv) The ability to collect charges for the services rendered from the people is very poor and large arrears have accumulated and the local body might not pay for bulk supplies in time, rendering the entire service ineffective. Balancing the pros and cons, it would be logical to state that if the local bodies have to be given part management functions for the arrears under their jurisdiction, they may as well be given the full management function and also provided the necessary capability for such management through allocation of adequate personnel and resources. A strict auditing and supervision over the working of the local body should ensure efficiency in regard to minimising, if not altogether eliminating, corruption, personal influence, etc.

To ensure that they discharge this function effectively, earnest endeavours should be made to strengthen the resource base, manpower, material and finances of local bodies to enable them to shoulder the heavy tasks. The additional source could be those taxes or avenues of income which grow or escalate with the growth and development of urban areas. Examples of such avenues are the surcharge on taxes like entertainment tax, stamp duty, excise on motor & spirits etc. Such additionality could be levied and collected by State Government and passed on to the local bodies for undertaking development.

The full recovery of capital costs of the projects may not always be feasible. Therefore, there is a need for compromise in this regard. The full local distribution costs should be recovered from the consumers of a utility and the capital costs to as great an extent as possible. In such a situation, provision of capital funding on a long term basis is necessary.

The State Government should ensure the repayment of principal and interest amount due to the Water Boards from Local authorities by transferring directly the proportionate share of additional resource generated for the local body to the Water Boards in addition to suitable deduction from the grants given to the local bodies and transferring them to the Water Boards for undertaking capital works.

The Water Boards on its part should resort to the strict measures in case of defaulting local bodies so as to function effectively and to achieve the self sufficiency in developing the urban water supply services. □ □ □

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and this went up to US$ 264 per tonne in Sept. 1987-an increase of 47 per cent. In Feb. 1988 the prices of preboiled rice reached a figure of US$ 300 per tone showing an over all rise of 14 per cent. But here the rise in prices between Sept. 1987 and Feb. 1988 is much lower as compared to price rise in case of B white rice 100 per cent. This sudden rising trend has created very unfavourable conditions for world rice trade in general and the forward traders in particular. In many major producing nations, traders have failed in honouring their contracts.

Pressure on supplies

Due to low production of rice in many major producing nations (Bangladesh, Thailand, China, Pakistan and India), the import demand from major consuming countries is increasing. India, Indonesia and Philippines are demanding more rice to meet their domestic needs and this situation has increased the volume of pressures on supplies. In order to avoid this situation, India has made a barter trade (counter-trade) with Burma to have I lakh tonnes rice and also asking Thailand to supply above lakh tonnes rice below the market prices. Similarly, Indonesia wants to import 3 lakh tonnes for meeting domestic consumption but can not afford to have it at the present market prices. Iran and Philippines have also asked for importing 6 to 10 lakh tonnes and 2 lakh tonnes respectively. But depleting rice endstocks are adding "fuel to fire" and also adding much pressures on prices. There are indications that in near future prices of white B 100% rice and preboiled rice will go up further due to uncertain weather conditions in the major producing nations.

Solutions

According to various reports, local retail price in major consuming countries have already recorded an increase between 20 to 30 per cent since last September. Rise in prices in retail market of Indoenesia is as high as 25 per cent. In case of Thailand the rise in local market prices stood at 14 per cent. In regard to India the rise comes to 12 per cent. Now the question arises how to overcome this situation? Answer is more difficult. The possible solutions are as follows: Firstly, major producing and consuming nations must come forward and should evolve a common strategy on price horizon on the basis of "give and take". In this regard the USA can play a positive of "give and take". In this regard the USA can play a positive as well as an increasing role where rice endstocks are considerable. Secondly, major consuming nations should replace rice with wheat and maize. This solution is already in operation in case of India and Bangladesh who are importing maize and wheat from the USA to meet the situation. Other nations should follow them. Thirdly, major producing nations should form a common pool so that in case of such happenings, common pool could regulate effectively and efficiently the supply of rice/keeping prices at a reasonable level. Fourthly, bilateral agreements and counter-trade can go a long way in solving the problem.

Save natural resources or perish !

B.B. Vohra

The author here criticises management of natural resources in the country. According to him, those responsible for it have failed to recognise the close nexus between poverty and poor resource management. Expressing anguish over the ever-increasing population he poses the question; Would our natural resources, which are already depleted and over-stretched, be able to sustain the enormously increased human and animal population ? He outlines the tasks ahead to correct the imbalance and commends the efforts made in making man-made forests to overcome the situation.

THERE CAN BE LITTLE DOUBT THAT ONE of the biggest tragedies of our times has been the failure of the country's leadership in particular, and its intelligentsia in general, to appreciate the very close nexus which exists between poverty and poor resource management. That we have paid an extremely heavy price for this failure is evident from the fact that 40 years after Independence, nearly 40% of the country's population still exists below the line of absolute poverty. India figures at the 116th place in a World Bank list of 126 countries graded in order of per capita GNP. The only countries which rank below it are Uganda, Upper Volta, Malawi, Zaire, Burma, Mali, Nepal, Ethiopia, Bangladesh and Chad. We are in very distinguished company indeed.

Common sense

Common sense demands that if we are at all serious about securing the country's future, and indeed its very survival, the mistakes we have made in the past in the field of natural resource management must be corrected with the utmost energy and determination. This will however be possible only if the threat which the poor management of our natural resources poses to the economy is viewed realistically and not under-played or pushed under the carpet. It is necessary to sound this word of caution because we have already got rid of one of our most urgent problems by successfully propagating the myth that we have achieved self-sufficiency in food. In the process what we have conveniently ignored is the fact that our granaries are full only because some 300 million of our people are too poor to be able to buy all the food that they need. let alone meet their other minimum requirements.

Rising population

The adoption of a similarly self-delusive approach to resource management problems would have the most disastrous consequences because these problems have already assumed critical dimensions and admit of no further delay. An alarmist, rather than a complacent, view of the emerging scenario is in fact unavoidable if we take note of the fact that while, on the one hand, our basic life-support systems have already suffered grievous depletion and damage and are clearly unable to cope with even their existing burden, on the other hand, the pressures to which they are being subjected, continue to mount relentlessly. Inspite of all the efforts which have gone into the family planning programme, our population is still increasing at over 2% per annum, and, according to experts, will not stop growing till it has more than doubled and crossed the 1600 million mark. Our huge animal population of around 450 million is also increasing at about the same rate. The simple question is whether our natural resources, which are already depleted, over-stretched and in a state of considerable disarray, will be able to sustain, at anything like an acceptable level, the enormously increased human and animal populations which are projected for the future. It would be very brave person indeed who would be prepared to answer this question in the affirmative today.

Tasks: scope and complexity

Thanks to a pervasive "resource illiteracy", and a genergal lack of iterest in the subject from which even our most distinguished economists suffer, the scope and complexity of the major tasks which lie ahead are not sufficiently well-known. It would accordingly be appropriate to describe them in broad terms:

(i) The country possesses only around some 266

mh of land which have any potential for biotic-production (after excluding areas which are under urban uses or are intrinsically unfit for production on account of being perpetually snow-bound or rocky etc.). Out of this area, at least 90 mh or over a third are so badly degraded that they have already gone out of production as a result of denudation or water-logging and salinisation etc. These lands must be reclaimed and restored to whatever production they are capable of—even though this may be in the form of trees or shrubs or grasses.

(ii) Around 85 mh, or almost another one-third of the area, suffer from degradation to some extent or other and can be described as only particularly productive. These lands form part of the 143 mh which are under cultivation, and must be saved from further deterioration—whether caused by soil erosion or rising water tables—in the interests of safeguarding the country's food production potential.

(iii) Of the 67 mh which are officially notified as "forest lands" under one section or another of the Indian Forest Act, not more than around 28 mh possess good natural forests (with a crown cover of at least 40%). Such forests are being lost at the rate of at least 1.5 mh per annum and must, under any circumstances, be saved from further depletion through effective legal and administrative action.

(iv) The incidence, as well as the severity, of both droughts and floods are increasing because of the growing deforestation and denudation in water-sheds. However, this problem has not yet been made the clear responsibility of any designated authority and is receiving little attention even though it constitutes the biggest single threat to the economy.

(v) Water-logging and salinisation of the soil had already claimed 13 mh of once-productive agricultural lands by 1980. The present position is bound to be much worse becauce problems of drainage have received hardly any attention during the intervening period at the hands of irrigation establishments.

(vi) Although very large investments have been made on big irrigation projects their productivity continues to be disappointingly low. This situation can be improved only if more attention is paid to command area development programmes than to the construction of new projects. Such a major change in policy is however something that irrigation establishments are still reluctant to accept, inspite of the fact that new projects have long ceased to be either cost-effective, or ecologically desirable.

(vii) There is urgent need to bridge the big gap of over 5.2 mh which exists, in the major and medium irrigation sector, between the potential (20.8 mh) which has been created and the potential (15.6 mh) which has been actually realised.

(viii) Ground water levels have fallen dramatically in most intensively—cropped areas of the country, thus showing that withdrawals have exceeded recharge levels. There is urgent need to regulate pumping in such areas and to pay greater attention to problems of recharge.

(ix) Thanks to extensive denudation and soil erosion, the siltation of reservoirs which represent a highly valuable and irreplaceable potential for irrigation and power, is taking place at much higher rates than was envisaged at the time that they were built.

(x) The per capita availability of agricultural land which stood at 0.48 hectares in 1951 will be reduced to 0.14 hectares in the year 2000 AD. Good agricultural lands must, therefore, be jealously guarded against depletion and degradation. An important threat to such lands is posed by the growing demands of urbanisation. A proper land use policy must ensure that only relatively poorer lands are used for urban purposes and that even then, with the utmost economy.

(xi) There is need to monitor the health and productivity of over-worked agricultural soils which are cropped two or three times a year and to which heavy doses of fertilizers and pesticides are applied. Such soils tend to lose their fertility if micro-nutrients and trace elements are not replaced in time. We must pay special attention to the rectification of such deficiencies as soon as they arise.

Incredible as it may seem, adequate attention has not been paid to any of these problems and no systematic attempt has been made to compute the full extent of the enormous, though insiduous, losses to which the country is being subjected for its failure on this front. It would be useful to carry out such an exercise urgently for it would reveal that, at a conservative estimate, these losses are of the order of some tens of thousands of crores every year and therefore, need to be controlled as a matter of the highest priority.

Land management

Be that as it may, things have reached such a pass that an agonising reappraisal of our present policies in the entire field of natural resources management can be no longer put off. Such a review will show that we have erred most grievously in two ways. In the first place, we have failed to pay sufficient attention to problems of land management and have allowed the bulk of our non-renewable and limited land resources to suffer serious, and in many cases, irretrievable depletion and degradation. What is more, we have, in the process, also inflicted enormous damage on our renewable resources of water by permitting vast quantities to be lost to the sea, often after causing flood havoc on the way. We have also, of course, permitted our water resource to inflict great damage on our soil resources, through water-logging and salinisation.

Too much reliance

The second serious mistake we have made is to have placed too much reliance on big irrigation projects as a means to greater agricultural production, and therefore invested disproportionately large sums on them. However, thanks to inexcusably poor planning and execution investment has not yielded anything like the results expected of it. This was indeed pointed out by the Prime Minister in his address to the State Irrigation Ministers in July 1986 in words which deserve to be repeated:

"The situation today is that since 1951, 246 big surface irrigation projects have been initiated. Only 65 out of these have been completed. 181 are still under construction. This is not a happy state of affairs. We need some definite thrust from the projects that we started after 1970. Perhaps we can safely say that almost no benefit has come to the people from these projects. For 16 years we have poured money out. The people have got nothing back, no irrigation, no water, no increase in production, no help in their daily life. By pouring money out to a few contractors or a few thekedars and laourers to build canals and may be Public Works Departments to construct the dam, we are not really doing our people a favour. The favour comes when the project is completed, when the benefits of lthe project start flowing."

The utter lop-sidedness and lack of over-all perspective inherent in these two mistakes is revealed by the fact that as against the Rs. 15,206 crores spent on big irrigation schemes during the period 1951 to 1985, only Rs. 2723 crores were invested in forestry and soil and water conservation programmes. Since the big irrigation projects were meant to benefit only around 20 mh of land while the other schemes were meant to serve the interests of some 175 mh, the investment per hectare works out to around Rs. 7600 in the first case as against only Rs. 156 in the latter. These figures represent a differential of 50:1, and tell their own story.

Only option

We have paid heavily for these policies and there is now no option but to take a conscious and deliberate decision to redress the balance in favour of land management in the widest sense of the term. Such an approach will, strangely enough, not constitute any neglect of our water resources, but, in fact prove to be the best possible way of enhancing them by preventing the excessive run-off losses which are taking place today on denuded slopes. It will also result in the increased replenishment of our invaluable ground water resources which today serve a larger area than big projects and are nearly 100% more productive in terms of agricultural yields per hectare. The new policy will also, of course, result in better use being made of existing irrigation potential, in improved drainage in commands where water-logging is an existing or potential threat, and in the enhancement of the productivity of some 175 mh of degraded land—both agricultural and non-agricultural. Above all, it will save endangered reservoirs from premature siltation, and help to curb the incidence and severity of the recurring floods and droughts which are bleeding the country white, so to say.

Not an easy task

It must be appreciated that such changes in policy are not going to be easy to bring about and will call for the exercise of stern political will and of administrative skills of the highest order. It will be indeed a most formidable task to cut down on the huge allotments for new projects to which irrigation establishments have got used, and to rechannel their energies into the hitherto neglected but more relevant tasks of command area development, drainage and ground water studies and regulation. But even this task will be but child's play when compared to what needs to be done in the fields of afforestation, watershed management and soil and water conservation, where we will have to begin almost from scratch.

In the field of forestry, although we have organisations which are often over a hundred years old, our record has been dismally poor. In 1952, when the Forestry Resolution recommended a national target of around 100 mh of forests, it is very likely that the country possessed around 65 mh of good natural forests. However, the area of such forests has probably shrunk to something like 28 mh in 1987. What is more, although 3.7 mh of new plantations were made during the period 1950 to 1980, not many of these have survived, as has been pointed out in the M.S. Chaudhary Report of 1984.

However, not only have our forestry establishments failed to prevent the country's forest wealth from being depleted at an alarming rate—let alone add to it—they have also been unwittingly responsible for a remarkable cover-up operation. This was made possible by an incredibly defective system of estimating and reporting the country's forest wealth. According to this system, all that was reported year after year was the extent of the areas which stood notified as 'forest land' under one section or another of the Indian Forest Act, irrespective of whether such lands had good or poor tree cover, or none at all. This is why according to official statistics, the 'area under forests' has remained constant at around 70 mh over the decades inspite of the heavy denudation that has taken place on it. Not only did this system create an entirely unjustified feeling of complacency among foresters, but it also prevented the public from becoming aware of a most serious development. This system obviously needs to be urgently replaced by one which permits the country's forest wealth to be measured and monitored in a scientific and accurate manner.

Commendable efforts

It is against this rather bleak background that we must view the commendable efforts which have been made during the last two or three years to create man-made forests in response to the Prime Minister's call for a massive afforestation programme. These efforts have

resulted in the plantation of around 5 mh since 1985, at a rate of somewhat less than 2 mh per annum, which is only marginally higher, if at all, than the rate at which natural forests are being depleted. However, apart from the fact that official figures must never be taken at face value, one cannot be too sure that all these plantations will survive till maturity and that some at least will not meet the fate of earlier plantations. The programme also suffers from two other serious constraints. For one thing, the costs involved— at between Rs. 6000 and Rs. 10,000 per hectare—are much too high to permit a very much bigger programme to be taken up. For another, it has come up against acute difficulties of land availability, which slow down its progress.

It is urgently necessary to do some fresh thinking on this subject and to realise that in the long run, we have no option but to depend increasingly on the forces of natural regeneration if we wish to restore vegetal cover on denuded lands at the kind of cost and within the kind of time we can afford for this purpose. However, in order to release the forces of natural regeneration, it is necessary to satisfy two pre-conditions. Firstly, the areas which are sought to be regenerated must be effectively protected against grazing and browsing as well as against human intervention. Secondly, and particularly in areas of moisture scarcity, there must be effective soil and water conservation programmes like contour-trenching and the construction of check dams and small storages in all minicatchments in order to give a chance for plants to survive. It is necessary to point out in this connection that even highly arid areas like Western Rajasthan receive heavy rains once every 4 or 5 years and that if all such precipitation could be conserved by effectively controlling run-off losses, there would be adequate moisture to sustain grasses and trees during the drier years.

Both these conditions can, however, be satisfied only if local administrations and local communities join hands in controlling grazing by domestic as well as by nomadic herds and cooperate in carrying out soil and water conservation work on a massive scale on all denuded lands. This will require the education of local communities in the benefits to be obtained from better resource management—and what is more, ensuring that such benefits actually flow to them in an equitable manner. Such an approach will also demand that soil and water conservation works and natural regeneration should hence-forth constitue the core of all rural development programmes and that the funds which are at present being used more or less infructuously on a large variety of employment guarantee, poverty alleviation, and other schemes are diverted to such works on a priority basis. Admittedly, such a change in the status quo will constitute a tremendous challenge, but it will be a challenge well worth accepting in view of the stakes involved.

Amelioration

Side by side with programmes for natural regeneration of denuded soils, attention must be paid to the amelioration of the 85 odd million hectares of degraded agricultural lands most of which are rainfed and subject to erosion. While lands which are situated on very steep slopes or have very shallow soils must be diverted to tree or grass farming, the rest must be saved from further damage by appropriate terracing and contour-bunding so as to conserve their top-soil and make the best use of the precipitation they receive. Such lands must also be provided with large numbers of small storages—ideally, one in every mini-catchment—for irrigation as well as for enhanced ground water recharge. Experience shows that the treatment of such lands can be best done as part of an effort to simultaneously treat all the lands in a small water-shed so that excessive run-off from denuded puplic lands in the higher reaches does not undo the work done on private agricultural lands which are usually situated on lower slopes. This points to the need for the creation of suitably constituted and empowered water-shed management authorities which should be representative of the various desciplines concerned. At present such agencies are conspicuous by their absence because such programmes have never been taken up in a really meaningful way. The task of bringing such organisational infrastructures into being is going to be a very challenging one indeed.

It is necessary to point out in this connection that in view both of the nature of the works required to be carried out in the field of land management as well as of the need to actively involve local communities in their execution, it would be desirable to decentralise various decision-making processes and to bring them as near to lthe ground as possible. The works in question—levelling and terracing of land, trenching and bunding, the construction of small check dams and storages, the digging of drains and the planting of trees and grasses—are of a nature that, given a modicum of technical guidance, can be generally carried out by local communities without bringing in outside contractors and labour. It would be most desirable, from all points of view, if village communities could exercise the necessary initiatives and leadership in this field. However, most such communities are, by and large, incapable of playing such a role today, becuase they are feudal and fragmented, and not egalitarian and homogeneous, in structure. They are also often dominated by muscle men and mafias and have become distrustful of authority on the one hand, and, on the other, incapable of taking joint initiatives for their own betterment. Again, they enjoy little or no autonomy, have access to no financial resources worth speaking of, and possess no viable institutions for democratic self-government. It will be an enormously difficult task to carry out the far-reaching political, administrative and social changes in the entire rural sector without which better resource management will remain only a distant dream. But this task must be accomplished, however formidable it may be.

Battle for survival

We stand today on the very brink of ecological, demographic, and economic disaster. The situation

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Rural housing : problems and strategies

Dr. K.M. George

The author, in the article, analyses the housing problems confronting India and presents the strategies to be adopted for promoting sustained development of housing through implementation of the National housing policy. A sound land policy, a land information system easily accessible to the public, a specialised housing finance system, availability of technology and material and involvement/interaction between Government and non-governmental organisations could help quicken the process of rural housing and thereby ensure shelter to everyone by the turn of the century, the author feels.

SHELTER IS ONE OF THE BASIC NEEDS. The overall development can hardly ignore this crucial aspect. It was considered to be a non-productive investment by the earlier economists in general. However, today it is closely linked with the process of overall socio-economic development, It is part and parcel of the national goals.

Past experience

During the periods of 1961 and 1980, the share of housing sector in national income was around 4%. The fixed capital formation in construction of residential buildings as a percentage of the total gross capital formation has steadily increased from 11.2% in 1970-71 to 16.1% in 1984-85. The stock of residential houses in rural areas increased from 652 lacs in 1961 to 745 lacs in 1971 and to 887 lacs in 1981. In the urban areas it was much more impressive. It was 141 lacs in 1961, 185 lacs in 1971 and 280 lacs in 1981. There was an improvement in the quality of housing stock in all the areas. In the rural areas pucca houses increased from 13% in 1961 to 21.1% in 1981. In the urban areas the growth was from 46% in 1961 to 64.6% in 1981.

Backlog

Despite these impressive achievements the backlog has been estimated to be 233 lacs units. Out of this, 163 lacs were in the rural areas and 70 lacs in the urban centres. There are 140 lacs of Kutcha houses urgently needing upgradation. According to the latest Census the total number of houseless households was 6 lacs—4 lacs in rural and 2 lacs in urban areas.

Investment in housing

Government investment in housing has been rather modest. Government agencies have played an important role in facilitating private investment in housing. However, the problem is very complex. As shelter-development syndrome unfolds, Government will need to devise and implement those shelter strategies which are of paramount importance. The needs of the very poor have to be kept in sharp focus. It, therefore, demands a comprehensive national policy with clearly spelt out priorities for promoting a sustained development of housing.

The national housing policy (NHP)

The recently announced NHP of the Government of India has the following basic objectives.

- To motivate and help all people and in particular the houseless to secure affordable shelter through access to land, materials, technology and finance.
- To encourage investment in housing with a view to achieving a sustained growth in the housing stock and its proper conservations.
- To create an environment of efficient and accessible system for the delivery of inputs to maximise housing efforts.
- To improve settlements in order to raise the quality of life through the provision of minimum needs.
- To promote location specific architecture and preserve the heritage.

Thurst areas

NHP seeks to give priority to SCs, STs and freed bonded labour. It also keeps rural landless labour including artisans on the priority. Besides widows, single women and women headed households are in priority. Economically weaker sections, low income

groups and victims of natural calamities are all to be identified and assisted on priority basis.

Strategies

The NHP will be translated into reality by following a set of strategies. This includes provision of developed land at a reasonable rate for housing, security of tenure to households, development of a viable and accessible credit delivery system, promoting saving and investment in housing, creating conducive conditions to augment investment in housing, furthering research and development in low cost housing technologies and designs, making available standardised building materials at reasonable prices, encouraging production of local resources as well as improving and upgrading construction skills. As a part of the strategy both co-operative and group housing activities as well as involvement of non-Governmental organisations is highlighted. Modification of laws and regulations and strengthening basic infrastructure and services and developing location specific architecture while curbing luxury housing are other ingredints visualised under the NHP.

Minimum housing norms

NHP felt that health of the people can be promoted by improving housing norms which are consistant with the prevailing socio-economic conditions. It is observed that in rural areas for the economically weaker sections, the plot should not be less than 85 sq. mts. with a built-up accommodation of not less than 20 sq. mts. and arrangements for potable water supply and sanitation. In urban areas for the same section the size of the plot should not be less than 30 sq. mts. with built-up accommodation of not less than one living room seperate cooking space and low cost sanitation toilet.

Rural housing

The strategy for promoting rural housing includes among other things, the provision of house sites to the weaker sections alongwith financial assistance consisting of loan and subsidy components. The rural population must have easy accessibility to institutional finance for construction and maintenance of houses. Similarly finance must be available for upgradation expansion and renewal of existing houses. The designs and layouts should have locations specificity. Local resources must have prime importance as building materials. Supply and delivery system of building materials must be strengthened. Skill development for house construction on a self help basis must be promoted. Provisions like other basic needs which will improve the local environment must also be taken into consideration while planning for rural housing as a part of the distinguished feature of the rural housing scenario.

Land for growth of housing

Availability of land; its timely development with requisite infrastructural facilities and services is of prime importance for facilitating a sustained growth of housing activity. In this connection formulation and implementation of a sound land policy is of utmost importance. Both public and co-operative sectors must work towards counteracting speculative activities. In fact, this is very important from the point of view of weaker sections of the population. Equally important is the need for making appropriate changes in land tenure systems in order to ensure confirment of tenurial rights at reasonable rates for the landless in respect of house sites. Suitable innovative legal and administrative mechanisms such as negotiated settlement and land pooling and readjustment will be adopted. A land information system which is easily accessible to the public will also be developed.

Housing finance

Institutional finance at affordable rates is one of the pre-requisites for accelerating the availment of housing finance. Today there are many agencies catering to the needs of the housing finance. The notable among them are housing development and finance corporation (HDFC), HUDCO, State Housing Boards and Housing Subsidiaries promoted by commercial banks. In a way, the advent of commercial banks into the field of direct housing finance would give them valuable experience, as they are likely to get increasingly involved in this activity in future. However, with a view to providing easy access to institutional finance clear cut measures are to be initiated. Specialised housing finance system is the need of the hour. As mentioned commerical banks are likely to fill up this gap as an integral part of the national finance system. It will increase the flow of funds for the creation of new housing stock as well as for the renovation and expansion of the existing stock. Suitable measures are to be taken to increase the access of the poor to institutional finance for housing.

National housing bank

Logically a national housing bank (NHB) will be set up at the apex level. The NHB would mobilise resources for the housing sector. It would promote housing finance institutions both at the local and regional levels. It would also provide financial,technical and administrative assistance to these institutions, besides regulating working of housing finance institutions at all levels. Provision of advisory services in operational policies relating to savings, appraisal, disbursement and recovery are the other functions of NHB. It would identify constraints that are coming in the way of the development of the housing finance system and recommend measures to remove them.

Resource mobilisation for housing finance needs to be both elastic and wide spread. The household sector must be the ultimate source of savings and therefore, innovative savings and mortgage instruments have to be developed for this purpose. In order to ensure the viability of the housing finance system and to maximise its coverage, timely recovery of loans assumes added significance. There is also a need to develop institutional mechanism to provide households with greater access to affordable credit on individual and collective basis. The role of housing and urban development Corporation (HUDCO) should be strengthened particularly for

dealing comprehensively with weaker sections and low income segments in the rural areas.

Institutions like Co-operative Societies particularly under the aegis of non-governmental organisations (NGOs) may be promoted for mobilisation of savings and advancing as well as recovering housing loans. The co-operative movement in housing should be strengthened and factors that restrict the operation of co-operatives should be removed. Wherever possible cooperatives are to be tied up with NGOs. The credit needs of housing finance institutions should get special attention of those agencies which are engaged in land development and housing construction. Besides employers in the organised sector should undertake housing schemes on liberal terms for their employees and workers. Banks and such other financial institutions should stop the tendency of resorting to leased accommodation. They should go in for their own housing estates wherever possible and durable houses in the rural and semi-urban areas which can serve as model houses in these areas, as the people are totally devoid of architectural facilities and capabilities. Financial institutions including banks should be pace setters in this area also. When the future beckons how can the financial institutions faulter? Under the service area approach, the Lead District Officer (LDO) of the Bank of India has an enviable role to play as an agent of socio-economic development. Infact, banks must be the instrument of both social and economic development. The role of district Rural Development Agency must be broadened with both widening and deepening of its perception and involvement in rural development. Rural housing in a way, must be an integral part of the balanced regional socio-economic development under DRDA.

Building materials must be made available in adequate quantity at reasonable prices in time. Infact, producers of building materials and components must be encouraged, apart from using maximum of locally available resources.

Suggestion

i In order to promote a sustained development of housing, involvement of people and their participation is a pre-condition. To motivate people in general and the houseless in particular for securing affordable shelter through easy access to land, materials, technology and finance, conscious efforts are required to initiate large scale awareness programmes.

ii To improve the environment of human settlements, Government should provide drinking water, sanitation and other basic services.

iii The priority must be accorded to victims of natural calamities, low-income groups, economically and socially weaker sections, widows, and women headed households.

iv Land building materials and finance must be made available with minimum formalities and maximum repayment periods through the housing subsidiaries of nationalised commercial banks. The LDO and Lead Bank Officer would constitute a small committee which is a sub-committee of the District Consultative Committee (DCC) headed by the District Collector. The service area approach would include rural housing as one of its prime areas of involvement.

v Non-governmental organisations may also be involved in this task. They would identify the beneficiaries and make available standardised building materials and other components at a reasonable price in time. They may also be made in-charge of the tie-up arrangements for promoting co-operative and group housing activities.

vi District Administration should develop appropriate locally suited architecture which would be cost minimising and utility-oriented.

vii Research and development in building materials based on local resources must be encouraged on an ongoing basis by the national housing bank and the national institute of designs (NID).

viii Skills development must be accorded top priority in the curriculum of Industrial Training Institutes (ITI). This will help to promote house construction on an accelerated basis.

ix Banks must reorient themselves in terms of approach and values and the role of agents on rural development must be perceived in a wider perspective. The housing subsidiaries must give a greater impetus to socio-economic development rather than commercial viability alone. Besides, special efforts are required to build up model houses in rural and semi-urban areas by commercial banks and the same pattern may be made as the acceptable pattern "for the entire village". This calls for both vision and courageous decision on the part of commercial banks.

x Non-governmental organisations with flexibility in their operation and greater sensitivity to the needs of the people at the local level can provide effective linkages between public sector agencies and the beneficiaries. Such NGOs are to be encouraged and supported Infact, action is to be initiated to institutionalise and promote interaction between NGOs and Government at all levels, for quickening the process of rural housing. This may provide shelter to every one before the turn of the present century. The role of banks is important as pace setters and path finders. While money, designs and demonstrative houses come from banks, policy support and functional assistance will be rendered by DRDA, RBI (LDO) and DCC sub-committee, the implementation will be augmented by the NGOs by ensuring people's participation at the grassroots level. □□□

On ameliorating the lot of rural women

Dr. Binita Verma

The author here attempts to present a brief account of various developmental activities undertaken to uplift the status of women particularly rural women under the Plans. She laments over the fact that various policies and programmes aimed at improving their lot have failed to produce the desired impact. To bring the rural women into the mainstream of national development, the author feels, there is a pressing need for changing the perception of seociety about them.

IN THE CONTEXT OF CHANGING ECONOMIC AND SOCIAL CONDITIONS, it is highly necessary to help women agricultural labourers change their living and working condition as they form an important segment of the entire labour force in Indian agriculture. Equality of status and of opportunity is the pledge made by the Constitution of India; but in the case of the women agricultural labourers it has remained only a social document. In fact, they are faced today with greater inequality, exploitation and constraints. Improvement in their employment opportunities and working condition, not merely on the grounds of social justice, but as a basic condition for social and economic development is highly needed. This should, in fact, be the prime concern and a real challenge to our planners and administrators.

Elitist approach

In our highly complex and extremely diversified society, women agricultural labourers who toil in the field and perform the multiple role of women, merit separate consideration. Even after the four decades of Independence, the condition of the women agricultural labourers could not be improved. The policies and programmes for their welfare and development, in fact, do not affect them in the least. They remain quite unaffected by the so-called policies and programmes for women's welfare and development. These programmes are more urban biased, elitist in character and limited in scope. There is no specific policy and programme for the development or upliftment of the living and working condition of the women wage-earners in agriculture. Therefore, in the absence of specific policies and programmes for the women agricultural labourers, there is no option left but to discuss the policies and programmes made for women in general.

Women welfare during Plans

Indian planners have generally seen development as a process comprehending the entire social system and therefore, the Planning Commission defined three major areas under which they have paid special attention to women's development (a) education, (b) social welfare and (c) health.

The First Plan recognised that problem of high infant and maternal mortality rates was mainly due to malnutrition and undertook to develop (a) school feeding schemes for children and creation of nutrition sections in the State Public Health Departments, (b) maternity and child health centres, and (c) Family Planning.

The Second Plan emphasized the need for special attention to the problems of women workers, since they were comparatively less organised and suffering from certain social prejudices and physical disabilities. They were also paid less because of the feeling that they were less suited to heavy work and were more vulnerable in situations which produced fatigue. The Plan stated, therefore, that women would be protected against injurious work, should receive maternity benefit, creches for children. It also suggested speedy implementation of the principle of equal pay for equal work, provision of facilities for training to enable women to compete for higher jobs and expansion of opportunities for part-time employment.

The main thrust of the Third Plan, as regards women's development, was on the expansion of girls' education. In social welfare, the largest share was provided for expanding rural welfare services and condensed course of education for adult women. The health programmes for women mainly concentrated on provision of services for maternal and child welfare, health education, nutrition and family planning.

The approach in the Fourth Plan was a continued emphasis on women's education. As regards social welfare, the basic policy was to promote women's

welfare with the family as the base of operation.

The draft of the Fifth Five Year Plan indicated priority given to training women in need of care and protection, women from low income families, needy women with dependent children and working women. A programme of functional literacy to endow women with necessary knowledge and skills to perform the functions of the housewife was launched for the age-group 15-45. Under the Health Programmes, the primary objective was to provide the minimum public health facilities integrated with family planning and nutrition for vulnerable groups, children, pregnant and lactating mothers.

Women and development

Besides family planning and health, which have become an integral part of development planning ever since the First Five Year Plan of India was launched in 1951; in the Sixth Plan (1980-1985), the removal of poverty was made the formost objective. The Sixth Plan contains, for the first time in India's planning history, a chapter on Women and Development. It emphasizes three strategies as essential for women's development— (a) economic independence, (b) educational advance and (c) access to health care and family planning.

During the Sixth Plan, a variety of programmes were taken up under different sectors of development to ameliorate the working conditions of women and to raise their economic and social status

A special cell created in 1976 continued to look after the employment of women and monitor the implementation of the Equal Remuneration Act, enacted to provide for wages equal to those of men for work of similar nature. Three regional vocational training centres, one each at Bangalore, Bombay and Trivandrum, and a National Voactional Training Institute at New Delhi, with a total intake capacity of 600 women trainees, were set up by the Director General of Employment and Training.

In the rural development sector, the Integrated Rural Development Programme (IRDP) accorded priority to women heads of households. On the whole women comprised 7 per cent of the beneficiaries covered under the IRDP during the Sixth Plan. About 3.27 lakh women constituting 34.8 per cent of the total number of beneficiaries were trained under TRYSEM. A new scheme, namely, Development of Women and Children in Rural Areas (DWCRA) was started in 1982-83 as a pilot project in 50 blocks of the country.

Eight home science colleges for women attached to agricultural universities were set up to provide training and research facilities.

To boost enrolment in primary classes, early childhood education centres for children in the age group of 3-6 years were set up as adjuncts to primary schools for the first time in the Sixth Plan in rural and backward areas. To give additional fillip to higher education among women, separate universities for women have been established in the states of Tamil Nadu and Andhra Pradesh.

The enrolment of women under the Adult Education Programme in December 1984 was reported 2.89 million, the coverage being about 52 per cent of the total enrolment. Besides, 4,62,000 women were also covered under the programme 'Functional Literacy for Adult Women' implemented by the Ministry of Social Welfare.

Under the 'Science and Technology for Women' a wide spectrum of activities was taken up. Projects were sponsored for development of smokeless chullahs, use of solar cookers, setting up-bio-gas plants, and devices for improving the water purification system.

Added impetus was given to the instrumentation technology for repair and maintenance of electronic equipments in offices and hospitals.

A report was brought out on 'Occupational and Environmental Health Problems of Indian Women', containing detailed information on the health hazards to women in different occupations.

A number of technology demonstration-cum-training centres at selected focal points all over the country were set up by the National Research Development Corporation (NRDC) to provide expertise and resources to women entrepreneurs in respect of new technologies relevant to their daily needs and economic enterprises.

A major step was taken up by the University Grants Commission to provide a boost to women's participation in the field of science and technology by enhancing by 10 years the age of eligibility for women scientists to receive research fellowships,

Under the Integrated Child Development Services (ICDS), special nutrition was provided to pregnant women and nursing mothers. At the end of the Sixth Plan, more than 1.2 million such women were receiving benefits under the programme.

Provision was made for expanding maternal and child health (MCH) programme including training of local *dais* (Assistants). In order to induct local women as auxiliary nurse-midwives (ANMs), the educational qualifications for their training were relaxed to the seventh standard if girls with requisite educational qualifications at the higher level were not available. The upper age limit of training for ANMs was also raised.

By the end of 1984-85, voluntary organisations were assisted in the construction of 344 hostels for working women. Nearly 3000 women were given training in skills in modern industries and provided employment under the scheme 'Employment and Income Generating Training-cum-Production Centres for Women'. Condensed courses of education and vocational training courses were organised by a number of voluntary organisation benefiting 1,11,000 women. Under the socio-economic programme 3589 units were sanctioned, with a coverage of 47,011 women. The scheme of "Assistance to Women in Distress" covered only 9260 women through 267 vocational courses in

non-traditional trades with the aim of making these women economically independent.

Bringing Women into mainstream

The objective of the Seventh Five Year Plan would be to raise women's economic and social status in order to bring them into the mainstream of national development. In this Plan, the basic approach would be to inculcate confidence among women and bring about an awareness of their own potential for development, as also of their rights and privileges. The various mass communication media would be utilised extensively in this task. Special measures would be initiated for strict enforcement of the Dowry Prohibition Act and also to prevent harassment and atrocities on them. Voluntary agencies and educational institutions would be fully involved in launching organised campaigns to combat these evils. An integrated multi-disciplinary approach would be adopted covering employment, education, health nutrition, application of science technology and other related aspects in areas of interest to women. Efforts would be made to extend facilities for income generating activities and to enable women to participate actively in socio-economic development. The educational programmes will be modified to eliminate gender bias. Enrolment of girls in elementary high secondary and high education courses, formal as well as non-formal, would be given high priority.

The strategies for the development of rural women in the Seventh Plan include the following:

- (a) To raise the economic and social status of women in order to bring them into the mainstream of national development.
- (b) To bring about confidence and awareness of women's potential for development as also their rights and privileges.
- (c) To restructure educational programmes and school curricula to eliminate gender bias.
- (d) To reduce the drudgery of women with increased stress on science and technology.
- (e) To impart training on various aspects in backward areas.
- (f) To reorient beneficiary oriented programmes to suit the rural women.
- (g) To cover cent per cent in elementary education for children upto the age of 14 years by 2000 A.D.
- (h) To define health programmes to achieve health for all by 2000 A.D.
- (i) To modify the content of Adult Education Programme to incorporate the new value system in the community.
- (j) To improve the existing skills and to impart new skills under the programmes in agriculture and allided sectors.
- (k) To modify the various rural development programmes to suit the rural women adequately.
- (l) To ensure proper implementation of Equal Remuneration Act.
- (m) To explore the possibility of setting up rural banks for lending improved agricultural tools and to promote development programmes for women at the grassroots level under the concept of Vigyan Kendras.

In the Seventh Plan, a new scheme, namely, 'Women's Development Corporations' would be taken up for promoting employment generating activities by supporting schemes for women's groups and women from poorer sections of society. These corporations would identify potential areas of employment and assist beneficiaries in project formulation, raising the requisite finances and marketing of their products. A 'Women's Development Planning and Monitoring Cell' would be set up for collection of data and monitoring of Plan programmes.

The voluntary agencies would be stimulated to extend their programmes to rural, hilly and backward areas. They would be encouraged to create public opinion against the social evils like child marriage, dowry, illiteracy and atrocities on women.

Changing the perception

Although the strategies for the development of rural women are welcome, there is the pressing necessity to change our perception about rural women. They should not be taken to be persons without any aspiration for themselves, brooking every kind of insult, with no right to fight against the values, norms and traditions which served to oppress them, with no access to their own development or country's development. Rather they should be accepted as active participants in development process. They have got a right to employment. They should be treated as producers. They can claim better prices for their produce. They need a better living through better wages. They should possess land ownership rights and should have easy access to credit, science and technology to reduce the drudgery of labour. They should be free to refuse to accept the age-old traditions, assert their rights to fulfil their own aspirations and take part in society as first rate citizens. ☐ ☐ ☐

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demands that we should learn to look at the total resource management scene in a coherent and holistic manner, take energetic steps to correct past mistakes and chart a bold new course of action for the future. The battle for survival will be long and hard, and will be ultimately won only by appropriate physical action at the grass roots level. Village by village, micro watershed by micro water-shed, field by field, steps will have to be taken to enthuse local populations to participate in programmes to improve the productivity of all available land and water resources, so that the future of the present generation, as well as of generations yet unborn, may be secured. Will the leadership and the people of the country prove equal to this enormous challenge? ☐ ☐ ☐

Equality for women—what we need doing

(Part II)

Smt. T.K. Sarojini

In this concluding part of her article, the author presents a brief description of the agencies/organisations which act as a major source of information on women. The obstacles hindering the formulation of policies and programmes for the betterment of women; the areas where available information has helped decision-making, as also areas where non-availability of the same has hampered decision-making are also spelt out for rectification. The author is of the view that efforts of national, regional and international organisations would go a long way in evolving meaningful policies and programmes for the advancement of women.

NO FORMAL NETWORK SYSTEM OF INFORMATION exclusively for women, exists today. Whatever information is available is merely constituent in the total information network system in the country. The major sources of information on demographic and socio-economic aspects of women are the Office of the Registrar-General and Census Commissioner, the National Sample Survey Organisation (NSSO) and the Central Statistical Organisation (CSO) and Planning Commission. In addition to these, the related Central Ministries/Departments like Health, Education, Rural Development, Labour etc. generate information on women. A brief description of these networks is given below:

Registrar General, India

The Registrar-General and Census Commissioner is responsible for conducting population census in the country. The census operations are undertaken once in ten years. The data available from the census include changes in the age-sex structure of the population, expectation of life at birth, their socio-economic characteristics, level of literacy etc. The economic tables classify all persons by their main activity and subsidiary activity and categorise them broadly as workers and non-workers. Data also provide information on the distribution of currently married women, births and deaths during the previous year, age at marriage by religion and education, present age and duration of marriage etc. This information is available separately for urban and rural areas. Information is also available on the classification of occupations, e.g. professional, technical and related workers, administrative, executive and managerial workers, clerical workers etc. Besides the decennial census, specific studies viz. Sample Registration Surveys (SRS) on different socio-economic aspects of the people, including studies on infant and childhood mortality and fertility and mortality differentials are carried out by the Census Organisation.

National Sample Survey Organisation (NSSO)

Originally constituted for conducting large scale surveys to provide data for National Income Estimations and for Planning and Policy formulation, the NSSO has embarked upon a variety of fields, particularly in conducting socio-economic surveys. It has a wide network Zonal, Regional and sub-regional offices located across the States, districts and sub-divisions in the country. The socio-economic rounds are planned to be conducted in the cycle of ten years, periodically in cases like population, including maternity and child care and family planning, debt and investment and capital formation and land holdings and live-stock enterprises, and five years in the case of employment, rural labour, consumer expenditure etc.

Central Statistical Organization (CSO)

The CSO, which is a part of the Department of Statistics, is responsible for coordination of statistical activities in the country, maintenance of statistical standards, conducting economic census and surveys, plan work relating to development of statistics, dissemination of statistical information etc. The Social Statistics, Population and Manpower Research Division of the CSO is engaged in the coordinated development of social statistics, including population, manpower and employment, education, health and social welfare and maintenance of standards

Planning Commission

The Planning Commission is a supra-level agency responsible for formulation of policies and plans at national level. The main functions of the Planning Commission are carried out in a number of Technical Divisions, e.g. Perspective Planning Division, Monitoring and Information Division, Social Welfare and Nutrition Division. The Divisions scrutinise and analyse various schemes and projects to be incorporated in the plan, conduct technical studies and research on plan projects and programmes, prepare study materials and reports on the plan and follow up the progress of the Plan

programmes. The Plan evaluation work is carried out by the Programme Evaluation Organisation (PEO), an independent agency working under the general guidance and direction of the Planning Commission.

Ministry of Labour

The Ministry of Labour plays an important role in generating and providing data and statistics on women, on a continuing basis. There is a Women's Cell in the Ministry which addresses itself to the various problems relating to employment of women workers.

Directorate General of Employment & Training (DGE&T)

The DGE&T in the Ministry of Labour, which is responsible for development and coordination of programmes relating to Employment Service and Vocational Training Scheme, including Women's Vocational Training, collects data under the Employment Market Information (EMI) Programme. The data is compiled and brought out in the form of a Quarterly Employment Review The Review provides information on women employment in the organised sector, employment of women by industry and State-wise

Labour Bureau

The Labour Bureau, another organisation under the Ministry, of Labour, collects and publishes statistics on employment, wages, absenteeism, labour turnover, working conditions, etc. of labour force The Bureau also conducts research studies/surveys and brings out reports and pamphlets on women labour force, their earnings, working conditions etc To monitor the progress in the sphere of equality of men and women in respect of human rights, the Labour Bureau brings out a publication entitled 'Women in Employment' presenting a picture of the trends of women employment in India, the laws and regulations governing their employment, wages and earnings etc

Ministry of Health & Family Welfare

The Directorate General of Health Services (DGHS) of the Ministry of Health and Family Welfare collects statistics on the performance of various health programmes from the States and consolidates them at the national level. The Ministry undertakes and also sponsors ad-hoc studies on specific problems through various agencies viz The Indian Council of Medical Research (ICMR), National Institute of Nutrition (NIN), Hyderabad etc

Department of Education

The States are primarily responsible for collection and compilation of basic data on education The State Education Directorates collect data on educational institutions, enrolment, manpower, etc The Department of Education collects the compiled statistics from the States on an annual basis, which are brought out in annual publications such as 'Education in India'.

Surveys are also conducted by the Department of Education, National Council of Educational Research and Training (NCERT) and other organisations to collect detailed information on the educational facilities for planning the spread and improvement of education at various levels

Department of Rural Development

The Department of Rural Development is responsible for alleviation of rural poverty and creating infrastructure which has supportive role for income generation, self and wage employment. A comprehensive monitoring system exists for monitoring various programmes of this Department. The District Rural Development Agencies (DRDA) provide a strong structural base for collection and compilation of data. The same base is proposed to be utilised for the purpose of developing an information network system for women also.

Ministry of Programme Implementation

The Ministry of Programme Implementation was created in September, 1985 for effective monitoring of the implementation of certain projects and programmes The Division for Programme Monitoring in the Ministry is responsible for monitoring the progress of implementation of the 20-Point Programme Point No. 12 of the 20-Point Programme refers to 'Equality for Women'-a strategy adopted for advancement of women in the country Progress reports are brought out on monthly/quarterly basis and action is initiated to correct any deviation or deficiency in the achievement of targets

Department of Personnel and Training

The Department of Personnel and Training collects and publishes data on women employees' representation in various services in Government They also bring out brochures on special concessions/privileges granted to women in Government services

Ministry of Welfare

The Ministry of Welfare safeguards the interests of socially, physically and mentally deprived classes of society through various welfare and legislative measures The State Directorates of Social Welfare and the Tribal Research Institutes form the network for collection of data relating to these categories and to feed the National Machinery-for formulating necessary policies and programmes for betterment of these special groups

Networking through NIC

The National Informatics Centre (NIC), a plan project of Government of India under the Department of Electronics has been given the responsibility of creating appropriate information system to facilitate the planning and decision making process in the Ministries/Departments of the Government in the country.

In the Phase-I, of their project, NIC has developed an intracity computer network in Delhi with interactive terminals in various Ministries/Departments including the Department of Women and Child Development-the national machinery for women's development. All these terminals are connected to a large computer system-CYBER 170/130. In the Phase II, NIC is introducing a

similar network to cover the country by connecting all state capitals with super micro systems. The PC/AT compatible systems installed in the district headquarters will form the third level of NICNET. The District Computer Centres (DCCs) will have information relating to administrative data, monitoring data and socio-economic data which includes information on women The national centre will be able to query the data bases created at the State levels The State centres in turn can query the district centres for any information The NICNET has been so designed that querying in the reverse direction would also be possible

In the Phase-III, all the villages in the country will be linked up to the DCCs to facilitate flow of information right from the field level to national level through the linkages at district and state headquarters Once the entire network system comes into operation, the national machinery for women is going to take the full advantage of the system developed under NIC so that the information required for the formulation of policies and programmes for the advancement of women could be made easily available to the planning bodies for effective and timely decision making.

Linkages with regional and international agencies

Apart from the linkages with in the country, the national machinery is maintaining close liaison with regional and International Agencies including UN Systems working for the development and advancement of women This ensures regular flow of information on women's development from these agencies

Obstacles encountered

As already pointed out, there are several deficiencies and gaps in the information available for formulation of policies and programmes for the advancement of women. Some of these, as could be listed, include· lack of up-to-date and complete data on various demographic and socio-economic parameters, non-availability of processed data for operational use, lack of information on emerging social problems and women's contribution to labour market, non-availability of programme statistics, etc. Besides, the absence of a separate information network for women has resulted in dependency even for basic information on other sources. Related to this are the problems like lack of trained personnel for collection and interpretation of data and adequate machinery for timely processing as well as publication of the data collected All these constitute some of the obstacles which are causing hindrances to the national machinery in its effective functioning.

However, with the initiative now being taken for building up an information network system through the National Informatics Centre and also the cooperation and support expected to be received from the regional and international ogranisations, especially ESCAP and SAARC, it is hoped that the national machinery will be able to overcome the present problems and become self-sufficient in meeting its information needs

Information aided decision-making

In the history of Indian planning for women, there are many instances to quote regarding effective utilisation of information aided decision-making. The first and foremost among such instances is the setting up of a separate administrative machinery to take care of the interests and welfare of women As stated earlier, a Committee on the Status of Women in India ws set up in 1971 to make a detailed study of the situation of women in the country. This Committee brought forth many revealing facts about women in India and suggested a number of measures for the development of women which *inter-alia* included setting up a separate machinery at the central and State levels to look after the interests and well-being of women. Accordingly, a separate Bureau for women's welfare was set up in 1976 as part of the then Department of Social Welfare

Followed by the IWY in 1975 was the declaration of the International Women's Decade 1976-85. The information explosion that took place during the women's decade exposed the bare facts about the situation of women in India in comparison with that of other developing countries and demanded an immediate intervention of the government. The first effective step that took place in this direction was strengthening of the existing national machinery into a full-fledged Department of Women and Child Development to meet the emerging needs of women effectively

A review of the progress made by the country in general and women in particular since its independence in 1947 forced the Indian planners to believe the old saying that 'no country can advance while a segment of its population lags behind' The women who represented 50 per cent of country's total population were lagging much behind men in every sphere of life as revealed by the socio-economic indicators of development It was therefore, for the first time in the history of Indian planning that 'Women's Development' was given due recognition as one of the major areas/sectors of development and also a separate place in the Plan Document of Sixth Five Year Plan 1980-85.

The socio-economic situation of women in mid 70's had prompted Indian planners to have an immediate shift in their policies and programmes for the development of women as the earlier approach of providing curative and ameliorative services proved ineffective as women in India still continued to be socially backward and economically dependent. Accordingly, policies and programmes relating to women were given a shift in approach from 'curative' to 'preventive' and 'welfare' to 'development'. Economic development through income generating activities was given the highest priority so that women could become economically independent and self-reliant to take part in the socio-economic development of the country. In line with these policies, the Seventh Plan (1985-90) has launched many new programmes with a special thrust on 'Employment and Training' for women throughout the country.

introduction of the scheme of Integrated Child Development Services (ICDS) for children and mothers is yet another example of how decision-making is aided by the information base. The past experience of two development decades in implementing programmes of health, nutrition and immunisation for mothers and children through separate departments proved to be ineffective in bringing about the desired impact on the over-all development of children and mothers. Therefore, the basic services essential for the over-all development of children and mothers were brought under one single roof with an 'integrated approach'—in the name of ICDS under the Department of Women and Child Development.

Information collected through research and evaluation studies has proved not only effective for introduction of new policies and programmes but also in bringing about modifications in the on-going programmes for welfare and development of women. For instance, the findings of various evaluation studies on the scheme of 'Hostels for Working Women' have pointed out a glaring deficiency in the services under the programme as no facilities were provided for the dependent children of the working women residing in these hostels. As a result of this, immediate measures were taken to expand the scope of the scheme by adding day care facilities to these hostels This has made the scheme much more popular than before with more demand and increased budgetary support

Lack of information, a problem

About the instances where lack of information has become a problem for decision-making, we may refer back to Part-I of this paper where information gaps have been listed Besides those, there are a few specific instances where lack of information has become a stumbling block in decision-making. These include-contribution of a house-wife to GNP, changes in women employment trends; socio-cultural and attitudinal barriers; access to social legislation etc. These are explained below:

According to 1981 census, only 14 per cent of the total female population in the country fall in the category of 'workers'. The unpaid economic activities of women and their contribution through work in the domestic sectors remain unreported in the census. An ILO study has estimated that the value of unpaid hosehold work constitutes 25-39 per cent of the total gross national product in developing countries. But until and unless some supportive data on this particular aspect is made available the value of women's contribution to GNP can neither be estimated nor compensated.

There has been a reported decline in the employment of women in sector like Jute, textiles, plantations and also in some areas in the public sector. But, lack of data on this problem has become the major drawback to arrest the decline in these primary sectors where women can contribute and represent themselves as partakers of the development, Investigative studies need to be undertaken with a view to finding remedies in case of any proven decline in women's employment in any of the sectors. Simultaneously, new areas which have potential for promoting women's employment need to be identified.

Socio-cultural and attitudinal barriers, like feudal ideologies, elitist conception of women's role and negative aspects of ethnic, cultural and religious revivalism have kept women away from developing their full potential and actively contributing to and benefitting duly from socio-cultural and economic progress. Socio-economic barriers are operating in almost every sector. Until and unless these barriers are identified, programmes to counteract them can never be planned.

The household conceals several differences within it. Just as only women perform most of the household chores, such as fetching water and fuel, cooking and cleaning and most of the child care, women are also uniquely employed in paddy transplantation, tea leaf picking and hand spinning etc. In most processes of production, this task differentiation takes place and it is universally found that women cluster in the most monotonous, least skilled and least paid jobs. Under-remuneration of women workers adds to the invisibility of women, not only in their capability to receive benefits, such as bank loans, but also in the awareness of policy makers and programme implementors of the occupations that women are in fact engaged in.

There has been minimal involvement of women in planning, execution and evaluation of local and national programmes From the women's point of view, the statistical measures that were customarily used in economic and social analysis, are inadequate and sometimes even inappropriate Therefore, there is an urgent need to develop gender-wise data wherever necessary for effective decision-making.

Suggestions

To sum up, the present system of collection of information on women in India is still in the process of evolution and as such it is one of the weakest links in the total information system. Information on women in India suffers from a number of shortcomings which are common to several other sectors also. Although a mass of data is collected through censuses, surveys and administration of public services, yet only a fraction of these are subsequently analysed and published due to various constraints—such as shortage of trained manpower, equipment, printing facilities etc. Sometimes, even the published data are not fully utilised for purposes of planning and decision-making due to the defective systems through which it was collected.

In order to overcome the existing lacunae and deficiencies in the information on women and in the system of its collection, the following suggestions are worth considering:

— One of the main reasons for the poor statistical reportage in the field of women, is the lack of proper infrastructure at various levels. Firstly, there is no proper machinery to collect data on a regular basis. Secondly, whatever little is done it is only

through the administrative staff at lower levels who are not oriented towards this type of work It is, therefore, necessary to build up appropriate machinery with trained personnel right from the grass-root levels. These schemes should become part of the plan budget to get proper financial backing and push

- The nodal Department of Women and Child Development should issue specific instructions to all the concerned both at national and state levels to publish relevant statistics—not only of the routine official statistics, but also those collected through special surveys sponsored from time to time by (i) Sex (ii) age group (iii) rural/urban (iv) education (v) training status (vi) employment position wherever relevant (vii) classification by groups like socially/physically/mentally handicapped (viii) by levels of more income/expenditure groups
- In the case of sponsored studies, some uniformity in the concepts and definitions, methodology and tabulation should be ensured by the sponsoring organisations for each type of studies undertaken by them It should include a core format of enquiries and tabulation programme, so that all-India picture is rendered possible In this connection, preparation of some standard manuals for the various types of studies in the different fields may be sponsored by the CSO on the pattern of UN manuals.
- At the State level, the concerned Departments should be encouraged to bring out statistical publications with similar formats as those brought out by the different central Ministries Similarly at the District/Block levels, also, such information should be collected and supplied to the State Level Focal Points and through them to the National Focal Point The frequency should be quarterly, half-yearly and annual
- In the case of beneficiary-oriented programmes implemented by various Ministries/Departments, autonomous and voluntary organisations, the sex-wise and age-group wise, wherever relevant, and area-wise break-up of the beneficiaries, should be published to throw light on the extent of benefit/participation by these segments of population
  State/National level seminars/workshops should be encouraged to create a common forum for exchange of views and experiences amongst the personnel involved in the task
- Pre-service and in-service training for the personnel involved should be encouraged so that a uniform pattern, structure and techniques in collection, compilation and collation of data could be developed A regular system to disseminate the data relating to women should be developed for the use of planners and administrators

A model information network

In a developing country like India where financial resources are a major constraint, it is difficult to develop a parallel network system exclusively for women. Instead, it would be more pragmatic and economical to strengthen the existing system by adding a few 'Focal Points for Women', wherever necessary, so that the present day requirements of information on women could be met. Later, the same could be developed into an independent system depending upon the availability of resources and trained manpower etc.

Keeping the above strategy in view, the flow of information on women with slight modifications in the existing system could be visualised as in the chart: (P. 32)

The information network system for women as visualised in the Chart envisages flow of information/data both vertical and horizontal. The existing Focal Points for women at national level/state level are expected to maintain a close liaison with the office of the Registrar General and Census Commissioner, National Sample Survey Organisation, Central Statistical Organisation on the one hand and with Planning Commission, concerned governmental and non-governmental organisations and research organisations on the other Information thus collected will be processed and stored as 'ready to use' in the mini computer installed by the NIC in the Department of Women and Child Development Similarly, the State level focal Points will also maintain a very close contact with the State Bureau of Economics and Statistics which are the major sources of data, besides the concerned Departments. For this, the State Focal Points are being strengthened with NICNET system The District, Block and village level Focal Points (yet to be installed) are expected to function as intermediary links ensuring smooth flow of information The main 'nerve centre' for both horizontal and vertical flow of information will be the District Headquarters under the overall control of the District Collector The District level data-base on women will be developed and maintained in the District Computer Centres (DCCs) where the disaggregated information could be transmitted to the concerned quarters The Planning Commission has already made provision for building up village level data base through DCCs of the National Informatics Centre. The Focal Point for women at District level (preferably a Statistical Officer to be appointed) will be part and parcel of the District Computer centre and working in close collaboration with the NIC set-up

As far as collection and compilation of data from grass root levels is concerned, services of Extension Officers available at the Block level will be made use of. All the data thus collected from the grass-root levels will be computerised under the guidance of the National Informatics Centre and published at regular intervals to make it easily available for decision-making, formulation of policies and programme implementation for the advancement of women in India

It is encouraging to note that the Women's Section in the Social Development Division of ESCAP has already initiated action in developing Women's Information Network for Asia and the Pacific (WINAP) in collabora-

tion with the national networks on women available with its member countries.

The SAARC Technical Committee on Women in Development is another regional agency which is coming up with a similar plan of action to develop information network on women in the South Asian region. Their efforts to bring out-i) Bibliography on women in development; (ii) Directory on Audiovisual Aids, (iii) Directory of existing institutions and expertise available in the field of women's development, and (iv) updating of national reports on the status of women, are under way as a first step in sharing the existing information amongst the SAARC countries.

Viewed from the Indian context, however, there is considerable scope for initiatives in collection and exchange of information and research findings and for building up of a network of information system for women with the cooperation of various regional and UN/international agencies. Some of the areas where substantive work could be started and where the UN and other international agencies like UNICEF, ILO, WHO, UNESCO, UNPD, Statistical Office of U.N., ESCAP, SAARC etc. could contribute are·

- setting up of a data base at the national level, with appropriate software and hardware systems;
- Institutionalisation of exchange of information and experiences on the status of women between various countries particularly in the region on a regular basis;
- transfer of expertise within the region and between regions,
- Dissemination of innovative experiments through various media;
- training of personnel for development of skills in collection and processing of data as 'ready to use' information, monitoring and evaluation and other allied areas.

Regional and international co-operation

The Mexico Conference on International Women's Year emphasised the need for data collection, exchange of information and research findings, promotion of a network of institutions, both national and international, including the UN agencies to facilitate regular exchange of information and linkages. The Nairobi Conference on UN Decade for Women in 1986 also reiterated the above line of action. For this, the Conference visualised a well-knit network system at the national, regional and international levels for monitoring the improvement in the status of women These are indeed laudable ideals set forth and implementation of the same would go a long way in evolving meaningful policies and programmes for the advancement of women □□□

India to attain milk herd of 10 million high yielding cows and buffaloes

India aims at creating a national milk herd with 10 million high producing cows and buffaloes. As per the 1982 census the country already has about 13 million crossbreed cattle which are generally superior in reproduction and milk production to buffaloes. To achieve this target a concerted effort is called for improvement of buffalo by following modern technologies of live-stock breeding including multiple-ovulation embryo transfer technology.

During the last 18 years India has already more than doubled milk production from 21 million tonnes to 46.4 million tonnes and aims at increasing it to 70 million tonnes per year against the estimated demand of 49 to 60 million tonnes by 2000 AD. The contribution of the buffaloes in the total the milk production constitutes more than 50 per cent although they count only one third of the total bovine population.

At present there are 138 intensive cattle development projects, 17,213 veterinary hospitals, dispensaries and large artificial insemination service centres providing 10 million inseminations per year. Besides, the Operation Flood programme operative since 1969 is covering 5.5 million farm families in 52,000 villages in 169 milk-sheds spread over 250 districts in 23 States and Union Territories. India has instituted a Technology Mission on Dairy Development which will extend the cooperative structure to 275 districts and would cover 60 per cent of the country. □

Produce pledge loan scheme launched

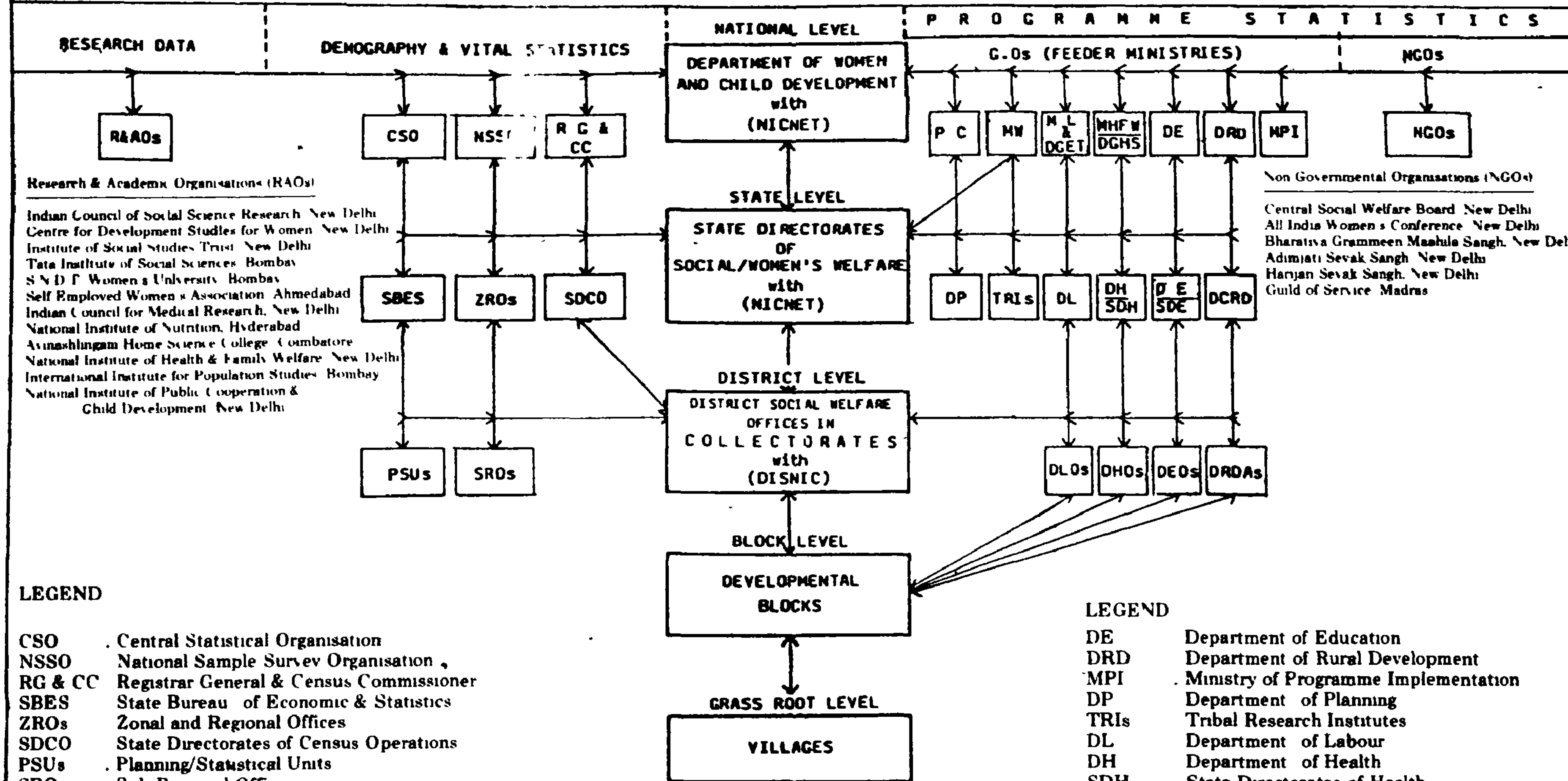
A new scheme 'Produce Pledge Loan' was launched from December, 1, 1988 as a pilot project in 14 districts, one each in 14 States in which the Special Foodgrain Production Programme is being implemented. Initially, the scheme would cover paddy, wheat, groundnut, rapeseed, mustard, Bengal gram (Chana), arhar and tur. The quantum of the loan advanced against the pledged produce would be twice the amount of crop loan taken by the farmer or 75 per cent of the value of the produce (hypothecated) at Government announced procurement prices, whichever is less, subject to a maximum of Rs. 10,000 per individual. □

Technology upgradation for capital goods industry

Government has introduced a Technology Upgradation Scheme for selected capital goods industries to be operated by financial institutions to induct latest technology. Under the scheme, import of 120 items of capital equipment required for manufacture of specified power generation equipment, machine tools, ferrous castings, steel forging equipments, selected items of industrial machinery, has been allowed at a concessional import duty of 35 per cent ad-valorem. During 1987-88 (July-June), a total assistance of Rs. 22 crores was sanctioned by IDBI under the scheme. □

Information Network System on Women in India—A Model

Focal Points



LEGEND

CSO . Central Statistical Organisation
NSSO National Sample Survey Organisation
RG & CC Registrar General & Census Commissioner
SBES State Bureau of Economic & Statistics
ZROs Zonal and Regional Offices
SDCO State Directorates of Census Operations
PSUs . Planning/Statistical Units
SROs Sub-Regional Offices
PC Planning Commission
MW Ministry of Welfare
ML . Ministry of Labour
DGET . Directorate General of Employment & Training
MHFW . Ministry of Health & Family Welfare
DGHS Directorate General of Health Services
NICNET Net Work of the National Informatics Centre

LEGEND

DE Department of Education
DRD Department of Rural Development
MPI . Ministry of Programme Implementation
DP Department of Planning
TRIs Tribal Research Institutes
DL Department of Labour
DH Department of Health
SDH State Directorates of Health
SDE State Directorates of Education
DCRD · Departments of Community/Rural Development
DLOs District Labour Offices
DHOs District Health Offices
DEOs · District Education Offices
DRDAs District Rural Development Agencies
DISNIC . District Information System of NIC

Note The State Governments/Union Territory Administrations and Districts are the administrative divisions in India At present there are 32 States/UTs and 440 districts

BOOK REVIEW

Infant mortality

Infant Mortality in India – differentials and determinants; edited by Anrudh K. Jain and Pravin Visaria; Published by Sage Publications, New Delhi; Pages 398, Price Rs. 225/-.

India, as a developing country, has to keep pace with other countries of her kind, not only in her ecconomic development but also in the maintenance of certain desirable standards of health for her huge populace. Reduction in the rate of infant mortality is one such standard of health which is so basic and bears grass-root significance. That is why it is considered as "an excellant summary indicator of the socio-economic development of a country" Moreover, W.H O 's declaration namely "Health for all by 2000 A D " affords a motivation which cannot be lost sight of especially in India, the most populated developing country of the third world

Thank God that our social scientists and health professionals, sub-consciously aware of the existing situation, consciously rose to the occasion, officially as well as institutionally to hold a seminar on the Determinants of Infant Mortality in India in October, 1984 No less than fourteen research and statistical papers were read and mutually discussed amongst eighteen experts at the seminar. A whole-some resultant of those papers, after due consideration and inclusion of changes suggested, has been published in the volume under review which has been edited by an international expert from New York and a master expert from the Gujrat Institute of Area Planning, Ahmedabad

Arranged under the broader headings of "National Perspective", "Lessons From Community Health Projects", "Evidence From Selected States", and "Unresolved Research Issues", the various papers afford a galaxy of lucid expositions of significant ramifications of the main subject of the seminar First hand research endeavour, veracity of on the spot collected information, sensible comments observations and realistic and indigenous ideas emanating from those having relevant expertise make the infrastructure of the papers More than ninety statistical tables form the back-bone of the material in between the lines. The over-all readability of the volume to all intents is unquestionable

As the literature on the subject has been found to be much limited, this volume will surely fill the void to some extent. Expectedly demographers, social and health scientists and policy makers concerned with the issues under study will benefit from this volume It is a well-produced volume, free from printing errors and substantially too obsorbing to be missed by interested readers.

Kum. B. KHURANA

Rural Banking

RURAL BANKING IN INDIA. I.C. Dhingra. Sultan Chand & Sons, New Delhi; pages 416, Price Rs. 30/-.

The character of the Indian banking system had undergone a spectacular transformation since the nationalisation of the major commercial banks in 1969. Banking is no longer only an important mercantile operation but has assumed the role of an active catalyst for the socio-economic transformation of the country The most important phenomenon in the banking system of the country has been the expansion of banking in rural areas with NABARD at the apex level

The book under review discusses the various aspects of rural banking with the background of history and theoretical backdrop, the role of credit and banking as instruments of rural development and transformation etc The author has made liberal use of all available documents particularly the official ones Where necessary the author has made use of graphs and charts as also the language of mathematics to present his points clearly The author has, no doubt, made a painstaking effort in writing this book but his claim that this is "the only book of its type on the subject" sounds too boastful and smacks of salesmenship One may not also agree with the claim of the author that the "discussion is analytical in nature rather than merely leaning on historical description of the role of various institutions". On the contrary it is hardly analytical in nature and mostly paraphrasing of official documents! A questionnaire attached with the preface from the publisher make the intention of both the author and publisher clear about the readership aimed at. Why Tamil Nadu could claim the distinction of having a whole chapter devoted to its economy in the book under review? Is it as a test case? No explanation for inclusion of this chapter has been given either by the author or the publisher. Printing and binding of this book are of the standard of popular text books.

P. GHOSH DASTIDAR

Personnel management

PERSONNEL MANAGEMENT THROUGH COST AND RATIOS by Dr. Gopal Ji. Published by Anmol Publications, 4378/4B, Gali Murari Lal, Ansari Road,

New Delhi-110 002. Firts published: 1988. Pages xvi + 272. Price Rs. 200/-.

This is an excellent book on an entirely new area of personnel management, exploring the ramifications of various cost and ratios as they affect the facets of personnel management So far, cost and ratios were taken help of in analysing financial soundness or otherwise of business concerns but this study has explored the possibility of their meaningful application in personnel matters as well

While personnel administration, as a separate discipline, has received inadequate recognition in the corporate world, of late, some large companies have given it due importance. Yet, however, the personnel executives still do feel that their functions have failed to impart substantial contribution in corporate management philosophy. As such, a study of this book will throw up so many challenges to the top management for coming to grips with diverse problems and their solutions in a scientific way so that personnel function is accorded a pride of place in managerial hierarchy.

The author has analysed personnel functions through simple quantitative measures and has demonstrated how by using them, personnel people can introduce effectiveness in their activities. The measures are also helpful in monitoring the personnel function, while cost consciousness is also achieved As is well-known, the major functions and activities relate to recruitment and selection, training and development, wage and salary administration, and labour relations In all these spheres, cost and ratios have obviously been instrumental in effecting changes and bringing about improved practices

The book is replete with statistical data, tables and abundant references to draw conclusions lending themselves to sufficient credence as to their utility and effectiveness The bibliography given at the end of the book is highly useful. The study must enthuse managers, scholars and researchers to come to grips with various technicalities of personnel management

NAVIN CHANDRA JOSHI

'WATER RESOURCE PLANNING AND MANAGEMENT' BY Prof. V.K. Sharma Dept. of Agriculture Economics, G.B. Pant University of Agriculture-Pantnagar, U.P : Published by Himalaya Publishing House, Girgaon, Bombay, pp. 254. Price Rs. 125/-.

The introductory note on the dust cover of the book claims it as the first of its kind covering a wide spectrum of water resource use Indeed, while much of existing literature in this field is concerned with limited aspects of water resources planning and management, the present volume seeks to present at one place discussions on a wide variety of topics including principally water availability, supply and demand, water conservation, basin-wide water uses, water management, planning, policy and administration. The book is intended as a text book for courses on natural resources economics and water resource economics, a relatively new field and yet to be nurtured in our Universities and higher learning institutions as well as a reference volume for those interested in water resource development. The author has taken pains to present useful material some of which are the results of earlier investigations, on use of quantitative methods in analysis of water resource development, optimising water resource use in alternatives, utilisation of irrigation potential under major and minor sources, productivity of water, ground water management and conjunctive use of surface and ground water etc. Considerable statistical material has been used to illustrate some of the vexed issues that confront water resources planners Some of these issues are by no means unfamiliar to planners, even if practical measures to counter the adverse effects are yet to succeed! To briefly mention, the better utilisation of irrigation potential under minor sources as against declining utilisation under major and medium sources of supply, wastage of water through inappropriate pricing of water, (a politically infeasible feat) scope for cost effectiveness (reduction) in the construction of large reserviors are a few instances in point. A plea is advanced for development of techniques in construction of irrigation schemes which would provide water supply at low marginal cost

The last chapter (X) which is of special interest to National and State planning agencies as well as those concerned with implementation of projects in this crucial sector is mainly a rehash of earlier planning efforts and institutions established with scarcely providing any fresh material, It is undertandable on the part of readers to anticipate an independent appraisal of planning experience gained through six five year plan periods, the critical inadequacies that have developed in the economy, the regional imbalances in water use and the new directions in which project authorities need to move especially in the context of integrated planning of natural resources that the author recommends, among others. A review of modern managements practices that had been introduced in this field since late seventies, especially with reference to project implementation planning and control and their effectiveness, if any, does not find mention. Again in the chapter on quantiative methods of economic analysis, the use of evaluation techniques which are increasingly being used by lending agencies in investment allocations or choice of alternatives, could be usefully elaborated and incorporated in the chapter. This has reference mainly to use of techniques like discounted cash flow and internal rate of return. Perhaps some of these are necessarily inescapable in an attempt to rush through a wide variety of complex issues! Notwithstanding these limitations, the present volume is a useful addtion to existing literature and fills a gap especially for researchers in this area who have to depend largely on external sources. For general readers who are unfamiliar with statistical methods and mathematical models, it is tough going in some places!

K.S. Sanjeeva Rao

Wage employment programmes being restructured

THE NATIONAL RURAL EMPLOYMENT PROGRAMME IS BEING RESTRUCTURED to make its implementation more effective. This is being done on the basis of evaluation studies conducted by the Programme Evaluation Organisation of the Planning Commission and some other reputed institutions and organisations.

The proposed changes in the programme include merger of National Rural Employment Programme and Rural Landless Employment Guarantee Programme into a single employment programme with the Centre and the States sharing the financial burden in the ratio of 75:25. Regarding the utilisation of funds, it is proposed that a minimum of 35 per cent of funds under NREP/RLEGP should be earmarked for taking up economically productive activities which include soil and moisture conservation, minor irrigation, flood protection, water harvesting structures, watershed development, creation of infrastructure support for IRDP programmes like sericulture, pisciculture, etc.

Under the modified programme, 10 per cent of the funds earmarked for schemes benefitting individuals SCs/STs are to be used only for economically productive projects. It also envisages to increasing to 20 per cent of the amount after the completion of Million Wells Scheme. However, there is no change in the allocation for social forestry activities which is 25 per cent of the funds with the condition that only such schemes where the poor have access to the plantation will be taken up under this sector.

The measures also include release of funds for employment programmes directly to the DRDAs by the States and Centre. The States are also being advised to initiate decentralisation of the planning and implementation of the scheme to block and panchayat level gradually. District Rural Development Agencies are to be fully authorised to sanction and utilise funds made available to them.

The Million Wells Scheme and the Indira Awaas Yojana would continue to be operated as the first charge on the funds on rural development programmes considering them as sub-schemes. □ □ □

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Over 29 million families helped under IRDP

ABOUT 2 CRORE 92 LAKH FAMILIES have been assisted to cross the poverty line since the Integrated Rural Development Programme was implemented all over the country in October, 1980. The programme had been launched with the objective of giving assistance to selected families in rural areas to cross the proverty line by tàking up self-employment projects. An amount of Rs. 10277.980 crore has been spent on the programme so far. The cut-off line for identification and assistance is Rs. 4,800. The target group for assistance under the programme consists of small and marginal farmers, agricultural labourers and rural artisans.

During the current financial year till October, 1988, 15.590 lakh families had been assisted and Rs. 812.900 crore given as subsidy and loan to them. About 40 to 50 per cent of the families assisted were small and marginal farmers.

The assistánce under the programme is given in the form of subsidy and term credit mobilised by the finance institutions by taking up bank-financed projects. The pattern of subsidy is 25 per cent to the small farmers, 33⅓ per cent for marginal farmers, agricultural labourers and rural artisans. Tribal beneficiaries are given 50 per cent subsidy. The ceiling on subsidy is Rs. 3,000 in normal years, Rs. 4,000 in drought-prone areas and Rs. 5,000 for tribal beneficiaries. There is no monetary ceiling on minor irrigation works and only percentages are applicable. ☐ ☐ ☐

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WAREHOUSING TECHNOLOGY

yojana

Next issue:
Fertiliser

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Strong base for milk processing during 8th plan

The indigenous production of milk powder and infant milk food has gone up from 22,000 tonnes in 1970 to about one lakh tonnes in 1987. This has certainly laid a strong base for milk processing during the Eighth Five Year Plan. This information was given by Shri Jagdish Tytler, Union Minister of State for Food Processing Industries while addressing the meeting of Parliamentary Consultative Committee attached to his Ministry in New Delhi recently.

Expressing happiness over the big strides made by the country in manufacturing milk products, Shri Tytler said that all milk products are now manufactured in the country. He said about 30 years back, milk products, such as milk powder, infant milk food, table butter, cheese and malted milk food used to be imported. Now there is no commercial import of such milk products, he added.

Referring to milk production in the country, Shri Jagdish Tytler said that there has been a considerable increase in its production during the last two decades. The production of milk went upto 45.9 million tonnes in 1987-88 as against 28.4 in 1977-78. He said the target for milk production in 1989-90 was 51 million tonnes. Of the total milk production in the country, an estimated 30 per cent is converted into milk products, of which ghee alone accounts for 85 per cent.

Regarding guidelines for grant of licences to the units for manufacture of milk products and malted milk foods, the Minister said that the new guidelines accord highest priority to cooperative and public sectors for future capacity in this sector. The guidelines stipulate that no application for setting up of a new unit in private sector in areas covered by Operation Flood should be considered. However, an application for expansion in capacity of existing units in the private sector may be considered if the proposed expansion does not adversly affect the functioning of the cooperative milk plants.

The Minister said that after framing of the new guide-lines 13 letters of indent have been issued to the organisations for the manufacture of milk products in public and cooperative sector. He said so far 83 milk products manufacturing plants have been established in public, cooperative and private sectors. Out of these, 59 are in public and cooperative sector, he added.

Some Members expressed the view that private sector may also be encouraged to set up milk products units to generate healthy competition and to increase production. They suggested expansion of milk processing base and encouragement to cottage industry for the benefit of farmers.

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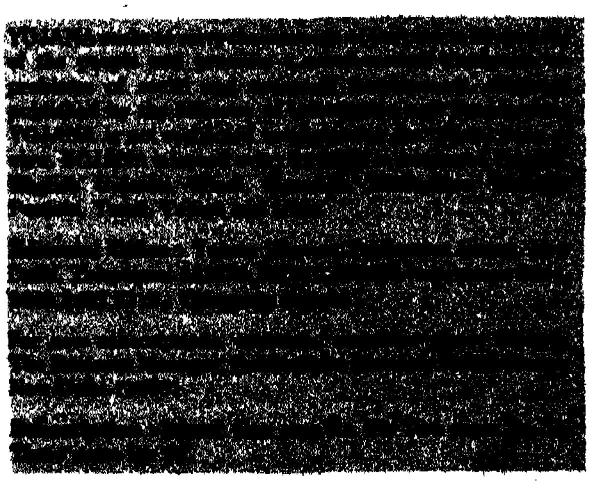
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Education in national plan priorities

Mohd. Muzammil

Education, says the author, ranks as an important input for creating a social order founded on the values of freedom, social justice and equal opportunity. Accordingly, it has been assigned a pivotal role in the developmental process down through the plan periods. In this article, the author sketches the rapid expansion of educational facilities from one plan to another culminating in the adoption of the New Education Policy, 1986. All said and done, what is essential is to ensure children's retention in schools if the various schemes/plans are to succeed.

EDUCATION IS CERTAINLY THE MOST important input for improvement of the quality of manpower and a very significant factor in achieving rapid economic development and technological progress. It rightly ranks as the highest input for creating a social order founded on the values of freedom, social justice and equal opportunity. Accordingly education has been assigned a pivotal role in the development process since the beginning of the planning period in India. Rapid expansion of educational facilities from one Plan to another has been a characteristic feature of educational planning. The Planning Commission of India in consultation with state governments and the relevant central ministries formulates plan programmes and devises broad national priorities for the development of education. Without going into the details of the broad over-all plan making process, the task here is mainly to see what the national plans have had to say in connection with education as the end product of a long and tortuous process of discussion, formulation, revision and finalisation.

Influence on economic progress

Recognising the economic and social singnificance of education, and the difficulties involved in the allocation of plan resources to this sector, the Planning Commission of India has observed, "The system of education has a determining influence on the rate at which the economic progress is achieved and the benefits which can be derived from it. Economic development naturally makes growing demands on human resource and in a democratic set up it calls for values and attitudes in the building of which the quality of education is an important element. The socialist pattern of society assumes widespread participation of the people in all activities and constructive leadership at various levels. In a period of intensive development, however, resources to be allocated for education and the targets to be achieved are among the difficult issues which have to be faced in drawing up a plan for economic and social development." The Commission went on in another plan document, "Programmes of education lie at the base of efforts to forge bonds of common citizenship, to harness the energies of the people and to develop the natural and human resources of every part of the country." These two observations amply reveal the overwhelming significance of education in the process of socio-economic development.

It may be noted that in the post-independence period, problems of educational reconstruction, expansion, qualitative improvement and financial implications there of, were reviewed by several commissions and committees, notably the Scientific Manpower Committee (1947), the University Education Commission (1948-49) and the Secondary Education Commission (1952-53). The recommendations of these commissions and committees together with the Constitutional provisions became the basis for priority determination in the first three Five Year Plans of the country.

The First Five Year Plan

The First Five Year Plan (1951-56) accordingly emphasised the universalization of elementary education and strengthening of the secondary. The First Plan did recognise secondary education "as the weakest link" in the system of education in India The Review of the First Five Year Plan, Government of India, issued in 1957, states, "Secondary schools supply teachers for elementary schools and students for higher institutions. The quality of secondary education is therefore decisive in determining standards at other stages of education. A good system of secondary education, which prepares the way for opening in many different directions, is essential to sound economic development."

It needs to be mentioned here that while piece-meal reforms were proposed and introduced from time to time, the problems of secondary education were not considered as a whole and in a comprehensive manner until the appointment of Secondary Education Commission in 1952. With regard to higher education, the problems of reforms and reorganisation were considered carefully by the University Education Commission (under the chairmanship of Dr. S. Radhakrishnan) which reported in 1949. One of the principal recommendations of the Commission was that a Committee or Commission should be set up for allocation of capital and recurring grants made by the Central Government to Universities in India. Such an institution was also required for taking steps, in consultation with the Universities, for the promotion and coordination of university education, determination and maintenance of standards of teaching, examinations and research. Consequently an ad-hoc University Grants Commission (U.G.C) started functioning in 1954 and in early 1956, the Parliament enacted The University Grants Commission Act which finally set it up as a statutory body. Even today, among the various central organisations, the UGC is the only body established specifically to fulfil the Constitutional responsibility of the Central Government in regard to co-ordination and determination of standards in the universities. It is a great achievement indeed of the First Plan which heralded the beginning of a new era in higher education in the country.

The need for expanding technical and vocational education was realised in the years immediately following the Second World War. In 1945, the All India Council for Technical Education had been set up for advising the central and state governments on schemes of development in technical and vocational education. The Scientific Manpower Committee has also underlined the need for improved technical education in 1947. These two recommendations in fact formed the basis for according high priorities to the expansion of technical education in the country.

The Second Five Year Plan

The Second Five Year Plan laid greater stress on basic education, expansion of elementary education, diversification of secondary education, improvements in standards of college and university education, extension of facilities for technical and vocational education and the implementation of social education and cultural development programmes. The Assessment Committee on Basic Education appointed by the Government of India in 1956, recommended for its expansion and improvement of the standard. In order to fulfil the directive of the Indian Constitution to provide ee and compulsory education upto the age of 14 years, ie Government felt the necessity of supplementing its sources by the local community which should finance lucational institutions of elementary education from s own sources to the maximum possible extent. With a iew to diversifying the courses at the secondary level, tudies of general science and a craft were introduced. The Plan document noted that there should be diversified courses according to the aptitudes and capacities of students of that level.

Development of rural education

To examine the recommendation of the University Education Commission about the development of rural education at the higher level, Higher Rural Education Committee was appointed in 1955. This committee recommended the establishment of Rural Institutes whose functions would be: (i) to provide facilities for higher studies to students in rural subjects e.g. rural hygiene, agriculture, rural engineering and cottage industries, (ii) to provide certificate courses in the above subjects, and (iii) research programmes. A Council for Higher Rural Education was set up by the Ministry of Education to organise ten rural institutes in various parts of the country in the Second Five Year Plan period. With regard to technical education in general, proposals were made for the establishment of several degree level, diploma level and certificate level technical institutions in the country. All these priorities for technical education were quite appropriate because the Second Plan was basically an industrial plan.

With the passing of the resolution on Scientific Policy, under the leadership of Jawahar Lal Nehru, the development of science, technology and scientific research received special emphasis.

The Third Five Year Plan

The Third Five Year Plan emphasised the requirement of trained manpower for the economy which was considered to be the major determinant of the measure of advance which could be achieved in different directions. The Draft Outline of the Third Five Year Plan of the Government of India stated: "In all programmes of education, the main emphasis will be on the provision of facilities for universal education from the age group 6-11, improvement of science education at the secondary and the University stages, training of teachers of all grades and expansion of technical education." During this plan period emphasis was laid on opening of more agricultural universities to develop agriculture on scientific lines. These universities sought to bring together a number of related fields of study such as agriculture, animal husbandry, veterinary science, dairying, basic sciences and humanities. However the responsibility of the agricultural university extended beyond teaching to fundamental research in agriculture and involved special obligation towards cultivators in the area served by the university through extension services. It was during this period that adult education (social education) programmes were emphasised.

Because of the two wars of 1962 and 1965, the period of the Third Five Year Plan (1961-66), was to prove a crucial one from the view-point of maintaining a predetermined allocation of resources to the services sector in general and education in particular. Decisions for investment in core sectors for building up a sound economic foundation of the country came to be

contrasted with those in the sector of social services. Naturally the axe was to fall on the latter, not only in the remaining years of the Third Plan but also in the subsequent Five Year Plans of the country.

It was towards the end of this plan, that a need was felt to review the educational system with a view to initiating a more rational effort at educational reconstruction. Consequently, the Education Commission-1964-66 (under the chairmanship of D.S. Kothari) was appointed to advise on "the national pattern of education and on general principles for development of education at all stages and in all aspects." That the appointment of Kothari Commission was a great step forward with respect to education in free India, is evident from para A-II.05 of the resolution of Government of India setting up the Education Commission which is quoted below :

"It is desirable to survey the entire field of education as the various parts of the educational system interact with influence on each other. It is not possible to have progressive and strong universities without efficient secondary schools and the quality of these schools is determined by the functioning of elementary schools. What is needed, therefore, is a synoptic survey and an imaginative look at education considered as a whole and not fragmented into parts and stages. In the past, several commissions and committees have examined limited sectors and specific aspects of education. It is now proposed to have a comprehensive review of the entire educational system."

"The destiny of India is now being shaped in her classrooms," is the opening sentence of the Report of the Education Commission (1964-66). "In a world based on science and technology", the Commission goes on, "it is education which determines the level of prosperity, welfare and security of the people." The major recommendations of this Commission were incorporated in the Resolution on National Policy on Education passed by the Government of India in 1968.

The Fourth Five Year Plan

The Fourth Five Year Plan (1969-74) accordingly emphasised a suitably oriented system of education for the country. It goes on stressing that it can facilitate and promote social change and contribute to economic growth, not only by training skilled manpower for specific tasks of development but what is perhaps even more important by creating the requisite attitude and climate. The Fourth Plan recognised that facilities for elementary education were a pre-requisite for equality of opportunity, and keeping this fact in mind, the document notes that priority will be given to the expansion of elementary education and the emphasis will be on the provision of facilities for backward areas and communities and for girls. For the problem of drop-outs from lower classes, the Plan suggested that part time education be provided on a large scale to children. Setting up of schools within the reach of every child is the first necessary step towards universality of enrolment in primary education. To achieve this at a minimum cost, detailed district plans were to be drawn up.

With respect to secondary education, the Fourth Plan has stated that the main effort will be to enrich the content and to improve the quality. A major task in the field of post-elementary education is to provide a large variety of vocational courses for children who do not intend to continue their general education beyond the elementary stage. These courses have to be of varying durations, depending upon trades and vocations proposed to be learnt. It was also felt necessary to devise a number of additional courses in response to new demands.

In the sphere of higher education, the Fourth Plan envisaged greater emphasis on its consolidation and improvement in standards through the strengthening of staff and library and laboratory facilities. The Plan cautioned that proposals to set up new universities will be carefully examined by the University Grants Commission and the Ministry of Education. The Document noted the significance of science education and stated that it would be expanded and improved at elelmentary, secondary and university stages. With this end in view, programmes of pre-service and in-service training of teachers would be strengthened, the curricula in science upgraded and laboratory facilities provided. The administration and supervision of science programmes would be strengthened and informal activities encouraged through science clubs and fairs.

The Official Languages (Amendment) Act, 1967 and the Government resolution thereon, enjoined on the Government of India to prepare and implement a comprehensive programme for spread and development of Hindi as well as other modern Indian languages as mentioned in the Constitution. The Fourth Plan chalked out several programmes in this direction.

Keeping in view the large scale unemployment of engineers, the main emphasis in technical education in the Fourth Plan was on improving quality and standards. It was envisaged that the improvement programmes would relate to pre-service and inservice training and training in industry of teachers, the reorganisation and diversification of technical courses and improvement of post-graduate engineering studies.

The Fifth Five Year Plan

The Fifth Five Year Plan (1974-79) which was prematurely abandoned by the Janata Party Government at the Centre, laid emphasis on (i) ensuring equality of opportunities as part of the over-all plan of ensuring social justice, (ii) establishing closer links between the pattern of education on the one hand and the needs of development and employment market on the other, (iii) improving the quality of education imparted, and (iv) involving the academic community, including students in the task of social and economic development.

From July 1975, the programme of non-formal

education was introduced by the Government of India to cover children and also younger group who did not have opportunity for formal schooling or left school for one reason or the other. Three major categories of population received priority emphasis: (i) children in the age group of 6-14, (ii) uneducated youth in the age group of 15-35, and (iii) specific groups of men and women engaged in development activities or having common occupational or social and cultural identity.

The Fifth Five Year Plan document has pointed out that the secondary stage of education is of great significance in preparing personnel for various middle level positions in the country's economic and social sectors. While the demand for expansion will continue to be met, efforts will be made to restructure the educational pattern so that students could be prepared for diverse occupations.

To provide more facilities for higher education and remove over-crowding, some new universities were proposed to be established and in order to reduce the rush in the universities, the facilities for higher education were planned to be provided through evening colleges and correspondence courses.

The Sixth Plan

The Sixth Plan 1979-83 (which was abandoned in 1980 when Congress Party regained power at the Centre) launched by the Janata Party Government declared a freeze of higher education. It observed that no new universities needed to be set up, colleges were to be established with great restraint and only after ensuring adequate resources. It forcefully argued for higher allocation of resources to lower levels of education. The decision of the Government to discourage expansion of higher education is to be seen in the context of increasing educated unemployment with higher levels of education in the country, since unemployment rate rises as the education level increases. However, increase in educational attainment above a certain level reduces the incidence of unemployment. It was therefore necessary that unproductive growth of general higher education should be checked.

The Sixth Five Year Plan (1980-85), launched by the Congress party after it was voted back to power in 1980, was also aware of the undesirable growth of general higher education and specially at the under-graduate level. The Plan, therefore, assigned highest priority to the programme of universalisation of elementary education and it proposed a ten year strategy to realise the Constitutional directive of providing free and compulsory education to all children upto the age of 14, an object which could have been achieved ten years after the adoption of the Constitution but unfortunately remains unfulfilled even to this day. The Sixth Plan proposed universalisation of primary education (for the age group 6-11) to be achieved by the end of the Plan (1985) and universalisation of middle level (senior basic) education (for the age group 11-14) by 1990. The Plan document states that the approach is for all the states which are yet to universalise primary education (class I to V) upto the age of 11 years in the next five years, and in the case of other states, to achieve a substantial increase at the middle stage (class VI to VIII) of children upto 14 so as to achieve the goal as fast as possible.

The Seventh Five Year Plan

The Seventh Five Year Plan (1985-90) of the country has recognised that although the Indian education since Independence has been characterised with massive quantitative expansion at all levels, it is still to undergo the kind of transformation envisaged in the National Policy. There is, therefore, an urgent need for a new design of education. The Seventh Plan has emphasised that poverty alleviation programmes and reduction of social and economic inequalities and improving productivity can and should be integrated with educational development. It has further noted that the strategies for educational programmes and training and their organisational designs should particularly focus on women, youth and economically weaker groups so that they can make increasing contribution to the socio-economic development of the country. Human resources development has necessarily to be assigned a key role in any development strategy particularly in a country with a large population, notes the Seventh Plan document.

The Seventh Plan provides for reorientation of the education system so as to prepare the country to meet the challenges of the next century. The main thrust areas in the Seventh Plan are : (i) achievement of universal elementary education, (ii) eradication of illiteracy in the age group 15-35 years, (iii) vocationalisation and skill training programmes at different levels of education, (iv) upgradation of standards and modernisation at all stages of education with effective links with world of work and with special emphasis on science and environment and on value orientation, (v) provision of facilities for education of high quality and excellence in every district of the country, and (vi) removal of absolescence and modernisation of technical education.

The new education policy

The New Education Policy adopted by the Parliament in May 1986 (which was preceded by the circulation of a document entitled Challenge of Education in August 1985) itself mentions that it takes off from the National Education Policy the Parliament had approved in 1968 and seeks to build on it, to respond to the changes which have taken place.

The New Education Policy is to strike out in the thrust areas mentioned above (as the main educational targets of the Seventh Plan). The NEP will also embark on 'operation black board' at the lower end of the educational ladder. The programme envisions provision of essential facilities such as two reasonably large rooms, toys, black-boards, maps, charts and other teaching materials and at least two teachers (one of them a woman) in every primary school. Establishment of District Institutes of Education and Training

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The 8th plan : Some important priority areas

Dr. Rama Shankar Singh

The consensus decision of the Planning Commission to aim at a six percent per annum growth rate in the 8th plan is a boost to the economy. The author here enumerates the possible measures for achieving this growth rate and also lists some of the other important priority areas for the 8th plan along with the steps to be taken to attain them.

THE PLANNING COMMISSION'S consensus decision to aim at a 6 per cent per annum growth rate in the 8th plan and its inclination for even a higher rate in the subsequent plans may appear to be ambitious in view of the past trends and the resource constraint the economy is currently passing through. But such a boost to the economy is badly needed as GDP growth rate is a measure of country's aggregate economic capacity, which is urgently required to be raised. In India, the GDP growth target, since the inception of planning, has been fixed at around 5 per cent whereas the actual achievement has been around 3.5 per cent till the mid-seventies after which the growth trend showed signs of improvement and in the eighties, it seems to be attaining the 5 per cent level. Due to slow rate of growth of the economy in the past, developing countries like Brazil and Mexico have taken a quantum leap over India. (In terms of GDP, in 1965, India was the largest developing economy next only to China, but in 1984 itself she had to retreat to the fourth place while the second and third positions were occupied by Brazil and Mexico.) Similarly, countries like South Korea, Indonesia, Pakistan and Sri Lanka, by their higher rates of growth, have been able to improve their positions. Even China had attained a slightly higher rate of growth. Hence, India cannot afford to lag behind for long.

While GDP is a reliable measure of country's aggregate economic capacity, GDP per capita provides a better indicator of growth potential by relating economic development with population growth and thus, giving an idea about the levels of living of the people. This is why economic performance is generally evaluated in terms of increase in GDP per capita. During the last more than two decades, countries like Singapore and South Korea have been able to attain much higher rates of GDP per capita growth while India's immediate neighbours like China, Sri Lanka and Pakistan have also attained higher rates of GDP per capita growth as compared to India. As such, the Planning Commission must aim at and every effort should be made to attain a 4 per cent annual GDP per capita growth rate in the eighth plan.

Strict measures called for

But for achieving these rates of growth, some hard decisions will have to be taken. While the Planning Commission has made public some of its basic postulates concerning the GDP growth rate on the basis of its own preliminary estimates of Rs. 650,000 crore outlay for the 8th plan viz. incremental capital output ratio (ICOR) of 4.35, saving and tax ratio of GDP to 27 and 20 per cent respectively, 5% annual inflation and growth of exports to around 10 per cent, these estimates, as it appears, are not yet final. Moreover, there are many pitfalls inherent in it. Neither the outlay estimate seems to have taken into account the current inflationary trend along with the domestic and the international obligations of the Indian economy, nor the presumptions regarding ICOR, saving rate and the tax GDP ratio appear to be realistic. How far the government will be able to improve the efficiency of the public undertakings as well as in curtailing government consumption expenditure and various subsidies is also not known. Eventhough, the country requires a higher rate of output growth and we can only hope that the Planning Commission as well as the Government will have the necessary commitment and the will power to enable the economy to realise the targeted 6 per cent rate of growth.

Achieving a 4 per cent annual GDP per capita growth rate calls for a set of measures to slow down considerably the rapid growth of population in the country. It is neither the time for complacency nor any half-hearted measure will do anything worthwhile. Rather, it is the time for every one in India to note that we cannot wish for a parity even with many of the developing countries if population growth rate is not brought under control. The programme of population control may be difficult to implement in a democratic set up, but the consequences of its neglect will be too frightful to contemplate. The approach paper of the 8th plan currently under preparation must, therefore, clearly

put forward its strong determination to attain a 4 per cent GDP per capita growth rate along with the economic, social, political and the clinical measures required to inspire and motivate the people to heed the advice of reason and adopt a small family norm. Awareness of the virtues of small family can be created only through affluence, high rates of literacy, liberal social and religious traditions, fast industrialization (and urbanisation) and changed social preferences for which steps have to be initiated in right earnest.

However, the important thing to be put in mind while aiming at and endeavouring to attain high growth rates in the 8th plan is that it is not exactly the basic objective which was conceived by our great national leaders before and soon after independence or which inspired the people of India to forget the miseries of over 200 years of alien rule in the prospects of a better future. At the same time, actual experience in many of the low and middle income developing economies also demostrates that by merely attaining high rates of growth with the help of techniques of development borrowed from the affluent west, these countries have not been able to deliver the goods in solving the basic problems of their people. For example, in Kenya, according to world Development Report 1987, the growth rate during 1965-80 averaged at 6.4 per cent per annum which was quite an impressive record in the Afro-Asian world. Despite this, half of its population (about 6 million) was without any job, about 25 per cent of the child population suffered from malnutrition and illiteracy stood at 85 per cent in the early years of this decade. The situation is not very different in Lessotho (6.7%), Paraguay (7.0%), Indonesia and Nigeria (7.9% each) and Botswana (14.3%) despite their much impressive growth records. The increased growth rate further deepened the division between the rich and the poor. In Nigeria, despite the oil resources, the vast masses of men and women continue to be poor as before. According to Chief Awolowo, former Chancellor of the University of Ife (Nigeria), "the per capita real income remains as low as ever. Poverty, ignorance and disease are in evidence everywhere, more particularly in the rural areas." The situation is rather worse in several areas of Asia, Africa and latin America due, among other things, to the faulty growth strategy, i.e. fully devoid of social and distributive justice, persued by them during the previous decades. That,in India, we have had to pay an extremely heavy price is evident from the fact that even after 41 years of Independence, nearly 40 per cent of country's population (notwithstanding the government claims of reducing poverty in the sixth and seventh plans) still exists below the lines of absolute poverty.

Other important priority areas

Gandhi's perception of Ramrajya or Nehru's socialism, as I perceive, is nothing but their cherished utopia to make India a nation of fulfilment and satisfaction all around. This utopia they had put forward after taking into full account the historical imperatives, the realities of the day, the aspirations of the people as well as the assets, the liability and the future requirements of a free democratic society. It is in this field that our gains in terms of social and distributive justice have been rather very modest. As such, the major task before the Planning Commission is to assess the progress made so far, recognise the mistakes of earlier plans, correct them by bringing about necessary changes in the objectives and strategy and make out the 8th plan a real action programme capable of bridging the gap between the vision and the reality. Thus, the 8th plan priorities are needed not to be fixed on the same lines as has been done in earlier plans, rather in this plan, increasingly greater attention is required to be paid to those areas and segments of the economy which ensure social and distribute justice which has, so far, remained only an illusive goal of our Planning system. Some of such more important priority areas other than the growth rates along with an inkling of the steps to be taken to attain them are being listed below:

The eighth plan must attach top most priority to meet the basic requirements of the people in respect of water, food, clothing, housing, power and transport facilities.

It needs no statistics to prove that even after nearly four decades of planned development, these basic requirements of the people, specially of those who are living below the poverty line, are not fully met. It should be the primary task before the 8th plan to meet these requirements before taking care of other areas of development.

The problem regarding availability of water is primarily a question of management and control of water resources. There is an urgent need to evolve measures to control floods and drought. In this area, our earlier efforts have failed miserably. As such, we would have to recognise afresh the relationship between water conservation and environmental and other parameters and take suitable measures.

To meet the requirements of food, clothing and housing of our teeming millions (in this area the progress made so far is clearly visible, but the poor and downtrodden yet have to suffer a lot), it would have been in the interest of entire humanity that efforts would have been made at international level by pooling world resources together. But such an idealistic solution is hardly realistic. In India, the least we can do is to adopt an intensive agricultural technology instead of an extensive one in which agricultural sector itself would employ much fewer people while finding alternative but gainful employment for the rest. The real solution lies in raising the income level of those who are living in the conditions of absolute poverty. For this, measures affecting income and wealth distribution in the society would have to take care of the poorest strata of

population. With regard to providing proper health facilities to each and every one, a two-way approach to ensure mustering of enough resources as well as decreasing the growth rate of population is urgently required to be adopted.

It is the energy (power) sources which ensure the economic future and well-being of a nation. Quality of life of people depends largely on energy sources which, in, one form or other, enters practically every single economic activity. This is why, Henery Ford had described it as "the way to liberty, the way to equality of opportunity, the way from empty phrase to actualities" (Saravathi, U.S.I.S, New Delhi, 1965, p. 51). The growth so far recorded in this sector has, of course, been phenomenal in terms of both volume and technological sophistication, yet we have neither been able to meet our energy demand adequately nor in reducing its cost. Hence, to meet the shortage problem as also to reduce its cost, a judicious combination of new strategies (such as microhydel, energy plantation etc.), biogas, nuclear power, cutting down the transmission losses as well as full utilisation of the installed capacity is needed which, most probably, will allow a quantum leap in energy production as result of which power shortage will cease to be a limiting factor of development.

The story of transport sector's development is even more impressiye, but at the same time, inadequate to meet the country's requirement to the full. Indian railway, now is the largest in Asia and fourth in the world, runing more than 11000 trains every day and connecting 8000 stations, merchant shipping is the largest among the developing countries and 16th in the world in tonnage. But we have not yet been able to reach these facilities to the rural masses and there are scores of villages which can be reached only on foot while the people of such villages do not find opportunities to come across a metalled road or to see a train. As such, the 8th plan should, without showing any laxity, take the pledge to connect these remote areas by road or rails on priority basis and also to acquaint the residents with the fruits of development.

The solution to the problem of meeting the basic requirements lies in combining the social, political, economic, scientific and technological elements of development, which require a fundamental change in the strategy of planning in India as the strategy, adopted so far, has failed to deliver the goods.

The 8th plan must aim at and ensure that every one has equal access to education right from the beginning and also adopt a new information order in which collection, dissemination and receipt of information is not the monopoly of only a minority.

We have now 165 universities (including) traditional and agricultural universities as well as institutions of national importance and deemed universities), 5800 colleges enrolling over 36 lakh students and having 2.27 lakh teachers, over 0.5 lakh higher secondary, 1.25 lakh middle and 5 lakh primary schools, but due to lack of democratisation of education only 3 per cent of India's population is availing these facilities to the full and from [illegible] able to get into the mainstream [illegible] every year. All the rhetoric we had on the "challenge of Education" and pious declaration made on the "National Policy on Education 1986" and "Programme of Action" seems to be ending up as a hoax. Consequently, education has turned into a tool of exploitation of the unprivileged minority.

To put the educational system on the right track, its class and caste base has to be destroyed. Transferring education in the union list and nationalising the whole system may help to attain this objective. There is the need of an unified national curriculum as also of a national policy on education guaranteeing a certain minimum education to every citizen while higher education may be restricted only to those having sufficient talent to match the level of the state of art in the field taken globally. At the same time, the right to information must be regarded as a fundamental right.

The 8th plan must attempt to ensure that every one has equal access to the best available medical and health care.

This ought to have been done years before. But, inspite of covering a long distance since Independence in areas like small pox eradication, malaria, tuberculosis and cholera control or in bringing down the death rate and increasing the life expectancy or even in developing the most modern and sophisticated methods of treatment in which Indian expertise compares favourably with the rest of the world, the truth is that whatever medical facility is available in the country is inadequate and not within the reach or a large segment of population.

While taking note of the goal of proper health facilities to all by the end of the century, the least the 8th plan can do is to make the available facilities accessible to each and every citizen of the country. Large scale vaccination and work for democratisation of medical and general education, protected water supply, adequate nutrition, basic sanitation and drainage, toilet facilities and a guaranteed minimum medical care can be taken up with available resources. Nationalisation of health services on the lines of Great Britain may be a suitable way to achieve these goals.

The Eighth Plan must clearly spell out a clear strategy which guarantees eradication of unemployment of every kind from the country and ensure that opportunities exist for all and every one's creative ability would be best utilised in the country.

During the last four decades, impressive development in many sectors of the economy has, no doubt, created new avenues of employment. But the population has increased even more rapidly resulting in rise in the number of unemployed. Besides, there is the problem of disguised unemployment, underemployment and even malemployment i.e. employment not commensurate with worker's acquired or inherent abilities and skills. Then there is the vast salary difference among the different category of workers and lack of opportunities for the creation of creativity in

handicrafts.

The first thing required to be done is that "right to work" be made a fundamental right. To ensure work to every capable person, we would need to utilise our vast resources more optimally and towards worthwhile social objectives, to erase and eradicate job hierarchies and reduce salary differences. The handicrafts, the village and small industries also require more support and encouragement.

To put anything in the last is not to make it less important As such, the 8th plan must have clear and effective provisions to establish an equitable economic order and recognition of basic human rights and dignity which are possible only if it successfully develops a work culture with a sound system of social security. It should endeavour to establish a society without any discrimination on the basis of caste, creed, sex, age or nationality, no physical or mental torture of one individual by another and there is no vulgar show of opulence.

Rapid economic growth, no doubt, is an urgent requirement of the Indian economy. But providing social and distributive justice is certainly the most urgent requirement of the economy which, if delayed, will widen economic disparity leading to rise of the forces of discontent, disenchantment, division, and disintegration. The points noted above to give a direction to the 8th plan may not be comprehensive, but the 8th plan has to take into account these priority ratings if economic planning has to remain meaningful and effective and the forces of division and disintegration kept in check. But this will require a major shift from the traditional path of Planning by embarking on a new way in which social and distributive justice remains the main theme with regard to the approach, the strategy, the outlay determination and the investment criteria as well as the implementation and evaluation of the plan.

So far, planning in our country has been influenced too much by considerations of administrative and political expediency and populist approach. The features. like thin spread of resources, adoption of numerous programmes of inconsequential significance, inability to indicate priority ratings of objectives as well as the gap between stated objectives on the one hand and the adopted strategy and the system of planning on the other, are enough to prove it. Henceforth, considerations of scientific planning and its attendant rigour and discipline should, in no case, be set aside. Now, there is no scope for half hearted pursuing of stated objectives. The system of economic planning was adopted in India, setting aside whatever the critics might have to say, not merely due to any ideological considerations, neither was it a matter of political expediency, rather it was, thrust upon us by the

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Revolution in warehousing technology

A. Ranganathan

The concept of containerization has revolutionalised the warehousing technology and contemporary warehousing has taken a quantum jump from a mere store house to that of a distribution centre. The advance in technology, calls for trained manpower and the author pleads for the setting up of National Warehousing Corporation's Training Centre for the benefit of the officials Popularisation of the concepts of 'rural storage' and 'disinfestation extension services' are also advocated for the better functioning of warehouses.

THE CONTEMPORARY WAREHOUSING economy has taken on several characteristics that in earlier times it lacked, or seemed to lack. Indeed it is necessary to understand the significance of such terms as Science, Technology, Warehouse and Technique. Again representative of many recent formulations derived from a science base is Prof. E.C.G. Sudershan's. In his address to the 22nd Convocation at the Indian Institute of Technology, Madras,— in 1985-the celebrated mathematical physicist Prof. E.C.G. Sudarshan explained the basic difference between Science and Technology "Science involves going where no human being has ever gone, to see further than anyone has sought .....Technology is to take others to the promised land to enjoy and develop that which has been sighted." And Prof. Sudershan has also emphasized that "while science and technology share similar tools and technology, their aims and practices are different."

The concept of warehouse

It is well to realize that in the current international setting, a modern warehouse is something more than a marketing channel where the concept of scientific storage is employed to store goods pending their sale. For the various goods operating at multiple points add up to the process of national distribution. Again, this process has added not merely a new factor to the warehousing economy, but also constitutes a new type of Warehouse which can be termed a distribution centre. Here it is well to recall Ellul's definition of 'Technique,'.Significantly, in his work entitled La *Technique*, the distinguished social theorist Jaques Ellul observed that "in our technological society, Technique is the totality of methods rationally arrived at and having absolute efficiency (for a given stage of development) in every field of human activity". In a sense, Ellul's definition of 'Technique' is synonymous with the tools, procedures and artefacts underpinning the modern technological society. More importantly, it is worth noting that modern technology is embedded in the very system of the warehousing economy. Viewed thus, it is clear that Warehousing and the Economy intersect at various points. Furthermore, once technology is applied, developed and deployed in various technological contexts, it follows that the warehousing economy has implications which range from transport timing and pricing to containerization and security. Thus, while refrigerated and engineering warehouses constitute a 'Technique' (in the Ellul sense of the term), Cargo Containerization could be regarded as a Technology (as interpreted by Prof. E.C.G. Sudarshan).

The Container Conveyance

A Cargo Container, which derived its ancestry from the ancient wooden packages in domestic cargo movements, has now developed into a versatile conveyance. For it links effectively not merely the economics of transport technology with the patterns of the current international trade, but also lends itself to the varying characteristics of different cargoes. These containers range from *Dry Freight Containers* (meant for general cargo), *Bulk Containers* with despatch facilities to carry materials like Chemical Fertilizers, sugar, flour and cement, *Tank Containers* which are used for storing liquid cargoes like foodstuff, milk and edible oils as well as toxic and highly inflammable chemicals. *Platform Racks* to handle structurals, automobiles and machinery, *Open Tank Containers* to carry loose materials like metal scraps, *Refrigerated Containers and Reefers* to carry fruits, meat, vegetables, sea food, plants etc., and *Ventilated Containers* to convey commodities like coffee-beans, onions, tobacco and tea which are prone to damage by condensation and therefore require aeration.

The technology of Warehousing has witnessed rapid developments in two vital areas—the area of handling, transport and storage, which has been revolutionized by the concept of containerizations— and the area of Warehouse Design. Indeed, the establishment of three Container Freight Stations in the Public Sector— at Bombay, Delhi and Madras-has contributed to a new technological dimension to Warehousing activity in India. Obviously, the main object of containerization is conditioned by the infrastructural requirements at the end-points of the Consignor and the Consignee. Thus, the idea of operating the Inland Container Depot (ICD) and the Container Freight Stations (C F S-s) is to unload the Cargo from the Railway wagon and transfer it almost immediately to the ship or vice versa.

It is well known that the first Indian Port to handle Containerized Cargo was Bombay. However, the Railways which transported 40 containers to the Inland Container Depot (I C D) at Pragati Maidan, New Delhi on June 30, 1984, ushered in a new a era of Container Transportation. At this point of time, it became necessary to consolidate "the less than Container Loads (L C L-s)" derived from small and medium industries. This was possible when the Central Warehousing Corporation (C W C) had collaborated with the Railways by commissioning the first Container Freight Station (C F S) at Patparganj in Delhi (which is about 11 kilometers away from the I C D at Pragati Maidan) in February 1985. Thus the concept of Containerization had become popular as a technology for the transference of cargo between different destinations. Furthermore, the Madras Port-which was already modernized as a result of a full-fledged container terminal had greatly accelerated the traffic of Containerized Cargo. And the very logic of this acceleration led on to the establishment of a Container Freight Station at Madras on January 1st,, 1988.

Design: a crucial factor

It is unfortunate that the subject of Warehouse design has not been given the importance it deserves. Indeed the entire success of our future Warehousing activity depends on a study of Warehouse Design in different surroundings. In fact, Building Shape constitutes a vital design element in bringing about operating efficiency, a reasonable construction cost and the need to store the goods without sustaining any damage (caused by fire, dampness, etc.,) For example, unimaginatively located Warehouses result in such negative factors as a decrease in interior travel time, needless difficulties in exercising supervisory control by dispersing personnel and operations over a larger area as well as the obvious construction— cost penalty. Actually it involves not merely an optimum utilization of Warehousing Space and an efficient layout, but also raises a wide range of design questions such as the need for refrigerated space, which naturally costs much more than ordinary space, as well as the possibilities of visualizing the number of truck doors and railcar positions. Again it will contribute to a mechanization of handling operations. For it also necessitates a study of package dimensions with stacks which are patterned on a pallet in order to do the handling by fork-lift trucks. Furthermore, the palletization of the Cargo through the use of the fork-lift trucks will eliminate damage to the packages and the consequent deterioration of goods as well as maximizing the utilization of storage space. At this point, it is necessary to stress the designing of less expensive storage structures which are relevant to Indian Conditions Perhaps one could even think of awarding prizes for designing the most sophisticated Warehouse Designs in the Indian setting.

Other inter-related activities

It is clear from the foregoing analysis, that the three important activities which are common to all warehouses are handling, storage and the ensuring of trained man-power. Here it is necessary to emphasize the four other inter-related activities in the Indian context. First, the popularization of the concept of rural storage is directly linked with the organization of the Farmers' Extension Service on a national scale. Also, the possibility of adopting certain villages in various regions (in order to provide credit facilities to farmers and cooperatives on a systematic basis) must be explored to eliminate post-harvest losses. Second, the Disinfestation Extension Services must be popularized not only among the farmers but also in other Government Departments— especially the Archives/Registration Departments. At this point, the Tamil Nadu Warehousing Corporation ought to be congratulated on commissioning the CFTRI, Mysore, to make a research study of the appropriate use of pesticides in the field of disinfestation. Third, it is necessary to establish a National Warehousing Corporations Training Centre for training the officials connected with the Central Warehousing Corporation, the various State Warehousing Corporations and the Cooperatives as well as those who are interested in the storage of agricultural and industrial products. Finally, the achievement of the Central Warehousing Corporation (C W C) is to be judged not only by its combination of sheer physical magnitude and conceptual complexity, but also by its degree of interdependence. Indeed the Central Warehousing Corporation — which was established in 1957— is currently handling and storing over 200 commodities through a far-flung network of over 450 Warehouses (some of them being multi-purpose Warehouses such as Public Bonded Warehouses in Port Towns and Inland Stations) in the country. And viewed in the light of these facts, the time has come to re-designate the Central Warehousing Corporation— especially when its unprecedented economic growth, financial stability and high rate of profitability have touched a new record-as the National Warehousing Authority (N W A). ☐ ☐ ☐

(Contd. from page 11)

inefficiency and inequitability of market forces for the developing economies like ours and if we will so easily allow it to deviate from the chosen path and fail, then the future would be doomed. ☐☐☐

Fight TUBERCULOSIS

1. If you are having continuous cough for more than two weeks or if you notice blood in sputum, may be, you are suffering from T.B. of lungs.

2. Get yourself examined especially your sputum at the nearest Primary Health Centre, Dispensary or T.B. Centre.

1



2



3



4



3. T.B. can be cured provided medicines as advised by the doctor are taken regularly for the prescribed period.

4. Prevention is always better than cure. So get your child vaccinated with B.C.G.

Central Health Education Bureau (D.G.H.S.)
Min. of Health and Family Welfare, Kotla Road,
New Delhi-110002.

davp 88/729

Women workforce : Problems and Prospects

Dr. B.N. Singh

Inspite of the constitutional provisions and the equal remuneration Act 1976, women's participation in the total labour force is pathetically low and their wages deplorably insufficient. The author attributes this lamentable situation to illiteracy, lack of technical knowledge, physical, social, psychological and cultural barriers. Government policies must recognise the actual role of the women workforce and give due preference to the development of occupations where potential for their labour absorption is more if the situation is to take a turn for the better, the author affirms.

WOMEN'S ROLE AS AN ACTIVE WORKER—PRODUCER of goods and services has not been duly recognised by this man dominated society. In the sense of power and privilege, whith certain exceptions, women have always been relegated to secondary postition. Even in the societies which are called advanced or in which the women are sole bread owners, they are still living in a state of subjugation. In India, though the Constitution provides for equal rights and privileges for men and women, such equality is far from reality. Even the persistent efforts by the planners, social welfare agencies and women's own organisations have failed to provide them their rightful place in the society. There are many interrelated factors including biological, socio-cultural, psycho-social and economic which have prevented women to attain their due place in the society.

Nature of job for women workers

Women in India, since time immemorial have formed an organic component of the working force of the country. They worked alongwith the male member of the household in sowings seeds, weeding, transplanting, watering the fields; harvesting the crops, tending cattle, poultry keeping and also helping in family enterprises such as bidi making, rope-making pottery etc. They do all this in addition to their normal domestic works as a housewife and thus they have been playing a dual role in the society.

Even in the field of wage employment, they have got their employment mostly in the low primary sector. According to the Census Reports 83.01 per cent of the female workers (main) in 1971 and 81.59 per cent in 1981 were engaged in the primary sector. Here also, the nature of their employment is not permanent but seasonal in character. The regular salaried women workers in agriculture constituted only 1.4 per cent and 0.9 per cent of the total female workers (15-59 age group) respectively in rural and urban areas. The secondary and tertiary sectors have provided very little employment opportunities to the women workers.

Trend and pattern of employment

According to 1971 census, India's working population constituted about 33 percent or 180.5 million out of the total population of 548.2 million. Female component in the total working force was of the order of about 17% of the main workers. According to 1981 census also, this constituted roughly the same percentage (32 5%) of the total population and female component constituted about 20 percent; i.e. a very low level of women's participatien in the productive pursuits of the country. What is more concerning is a general decline in the proportion of female working

Table-1

Percentage of Working Force to Total Population

Year	Male	Female
1901	61 1	31 7
1911	61 9	33 7
1921	60 5	32.7
1931	58 3	27.6

1 Govt of India, Census Reports 1971 and 1981.
2 Govt of India, NSS Report, 32 Round

Year	Male	Female
1941	*54 0*	*23 3*
1951	*54 0*	*23 3*
1961	*57 1*	*28.0*
1971	*52 6*	*12.0*
1981	*51 6*	*14 0*

Source · Govt. of India, Various Census Reports.

population to total female population, say for instance from 33.7 per cent in 1911 to 23 per cent in 1951. After 1951, it rose to 28 per cent in 1961 and slumped to 12 percent in 1971 and 14 percent in 1981, which is evident from the table 1

Thus, it is evident from the table above that the female workers always constituted a small proportion of the female population. Another lamentable factor is that the bulk of them are employed in the unorganised sector and that too in the low paid jobs. 83.01 per cent of women workers (main) in 1971 and 81.59 per cent in 1981 were engaged in primary sector., As many as 51 per cent in 1971 and 46 per cent in 1981 were employed as agricultural labourers against the respective figures of 21.54 per cent and 19.56 per cent in the case of male workers. In the secondary and tertiary sectors, (as shown in the table below) the female participation as workers is much less as compared to males.

Table -2

Percentage Distribution of Main Workers by Industrial Categories (1971 and 1981)

Industrial Categories	*Males* 1971	*Females* 1971	*Males* 1981	*Females* 1981
I Cultivators	45 90	29 84	43 70	33 20
II Agricultural Labourers	21 54	50 86	19 56	46 18
III Livestock, Forestry, Fishing, etc	2 24	1 91	2.34	1 85
IV Mining and Quarrying	0 54	0 40	0 62	0 36
A Sub-total Primary Sector	70 22	83 01	66 22	81 59
V Manufacturing, Processing, Servicing and Repairs				
(a) Household Industry	3 42	4 24	3 18	4 50
(b) Other than Household Industry	6 70	2 77	8 92	3 55
VI Construction	1 36	0 65	1 81	0 80
B Sub-total Secondary Sector	11 48	7 66	13 91	8 94
VII. Trade and Commerce	6 37	1 78	7 33	2 04
VIII Transport, Storage and Communications	2 86	0 47	3 32	0 38
IX. Other Services	9 07	7 08	9 22	7 05
C Sub-total Tertiary Sector,	18 30	9 33	19 87	9 47
Total Main Workers	100 00 (145 39 Mn)	100 00 (31 01 Mn)	100 00 (177 50 Mn)	100 00 (44 97 Mn)
Total Population (in million)	283 50	263 63	353 35	330 46

Mn. = Million.

Sources: 1. Census of India, 1971, General Economic Tables, Series-I, Part II-B (i)

2. Census of India, 1981, Series I, Part-II-Special Report Tables based on 5 percent sample data

Generally speaking, women have been employed in occupations involving less skill or in those for which they have special attitudes. Most of the women workers are illiterate which restricts their entry into the employment market. Even among the employed main workers according to 1981 census results, as many as 88.23 percent of females were illiterate in rural and 56.57 percent in urban areas. Those with matric and above qualifications constituted 1.47 percent in rural areas and 25.84 percent in urban areas against respective figures of 7.78 percent and 32.74 per cent for males. Here, Gunar Myrdal's remarks that the Indian society "cared little for the education of girls and generally placed women in an inferior position." seem relevant. This low level of literacy combined with other physical, social, psychological and cultural barriers compel them to seek employment in the low paid primary sector Here, in comparison to the male workers, their wage level is also lower even for the similar jobs.

In factories and mines, on the one side, their ratio to total work force is very low and on the other which is more distressing is the fact that it has rather declined, e.g. from 16 percent in the mining industry in 1961 to 11 percent in 1978. Similarly in factories, as evident from the table below, it was 11 percent in 1961 and 10 percent in 1978.

Table -3

Employment of Women in Factories and Mines

Year	*Percentage of Women to total Employment* *Factories*	*Mines*
1961	11	16
1966	9	14
1971	9	12
1976	11	12
1978	10	11

Source Pocket Book of Labour Statistics, Labour Bureau
Census of India, 1981 Series I, Part-II —Special Report and Tables based on 5 percent Sample Data
Myrdal, Gunar Asian Drama, (abridged) 1971

Again, in manufacturing industries like cotton textiles, their employment has been mainly confined to some of the departments like winding and reeling, traditionally known as 'women jobs' In Jute Industry, they have been mostly employed in the sowing department both at the feeding and the receiving ends They also work in preparing and finishing departments In silk industry, they are generally employed in the winding department In mines, they have been employed in the open workings and on the surface only In coal mines, their employment has been confined to wagon loading, ash cleaning, brick carrying and pallet marking. In small scale and cottage industries they have been assisting the male members of the families in different operations like spinning and weaving In bidimaking industry, they cut and clean the leaves in which bidies are rolled.

Thus, due to lack of education, training and technical knowledge, the women workers, even in the field of industry and mines have got the lower level of jobs, which are low paid.

Wages and earnings

By and large, wages and earnings of female workers in the primary sector (where more than 81 percent of

female workers are engaged) as well as in different industries have been lower than those of men, "partly on account of the long standing traditions, social customs and preconceived notions that they are inferior to male workmen in respect of their average output, and partly due to their shorter experience and inferior vocational training which, in turn, lessens the demand for female labour when demand and supply have free play in the employment market." Though the Constitution of India provides for "equal pay for equal work for both men and women", the Equal Remunerations Act, 1976 has also been enacted, but wage differences still continue and in the primary sector, equality of wages is a far cry. The wage rates for women workers in agriculture and plantations are much below than the male workers. However, in serveral activities in the primary sector, their working hours are lower than the male workers, but it leads to under-employment, both from the time criterion as well as the income criterion of employment measurement. The employment market is also limited for them. Their household responsibilities, their ignorance, traditional outlook towards employment, etc. restricts their mobility and they are compelled to accept the low paid jobs. Even among the women wokers, the worst sufferers are those who take to work under economic compulsions. They are generally ignorant, unskilled and semi-skilled workers belonging to the communities which have been conventionally recognised as belonging to the lower social strata "In a way women belonging to these coummunities are intended to be doubly protected (a) because they are the weaker section, and (b) because of comparatively unfortunate communities to which they belong; and it is here that the protection is the least. The wage paid to women is determined not by economic criteria but is a result of the cultural attitudes and practices and power structure in a society. According to Isabal Rojas, wage discrimination is due to the fact that there is a common accepted notion that men are more efficient than women and women's income is only a supplementary earning while men are considered as principal earners Whatever may be the reason, such practices of wage-discrimination have discouraged the development of women labour-force. Besides wage discrimination, the working conditions are also not much suitable for the women workers.

Suggestions

The available evidence shows that the women's participation in the total labour force is very low and a vast majority of them are engaged in agricultural operations. Here also they are not the owner cultivators but the casual labourers. Their employment is quite irregular and they suffer from maximum insecurity in employment. The backward social customs have contributed to retaining women's work status at a low level, Hence, the policies of the Government must recognise the actual role of the women workforce and specially of the rural women. More jobs must be created for women both in rural and urban areas. The Committee on Employment for Women. set up by the National Conference on 'Women and Development (May, 1979) has aptly remarked that the main challenge before the policy makers is to reach the neediest women with employment and related services such as child care and minimum health facilities The Committee has as such recommended an employment guarantee scheme to provide a minimum earning to the women workers. The main potential for the women labour absorption in India is agriculture and allied occupations such as foodgrains processing, dairy, poultry and fishery as well as forestry including collection and sale of forest products and the development of these occupations must get the due preference. Besides, the PWD and engineering departments, the Khadi and Village Commission, the handloom, coir, silk and other such small scale industries may provide more gainful job opportunities to the women workers and, therefore, their development should get a preferential treatment with a policy of providing more employment opportunities to the women workers.

Regularity of employment and equality of wages are also essential conditions for ameliorating the economic condition of women workers. In order to give them income stability, regularity of employment must be increased 'Equal pay for equal work' must be a reality and not merely a slogan. Equal Remuneration Act should be implemented rigorously.

Again, the nature of jobs for women workers can be changed mainly with their education, training and technical knowledge. For a rational distribution of women labour in economic activity, it is desirable to give preference to women for training in those trades and occupations for which they have special aptitudes. The pace of vocational training programmes should be further acceelerated for the purpose. The spread of education and training facilities will improve upon their employability in other industries where technological changes have necessitated their retrenchment.

In order to increase the supply elasticity of female workers apart from making special efforts to improve their skills and qualifications, their mobility both—geographic and occupational —should be facilitated. Better and efficient transport network can go a long way in this regard.

The wage structure and working conditions of women workers should also be improved. They are the weaker section of the society and they must get incentives and protection. Government enactments must be rigorously implemented in the case of women workers. Since rural women constitute a substantial share of female

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Incentives help promote small scale industry

Dr. N. Thanulingom & K. Natarajan

The author here discusses at length various incentives provided by the Government through its different Industrial Policy Resolutions, aimed at encouraging the growth of small scale industries They assess the impact of these incentives through an empirical study undertaken in Madurai district of Tamil Nadu and conclude that the incentives have been quite successful in yielding the desired results. Their impact has been measured in terms of location decision, investment, employment generation, capacity utilization, etc.

THE SMALL SCALE INDUSTRIES HAVE BEEN ACCORDED A VITAL ROLE by the Government of India for achieving socio-economic objectives like increasing industrial production, generation of additional employment and reducing regional imbalances of growth. The successive Industrial Policy Resolutions announced in 1948, 1956, 1977 and 1980 have emphasised the importance of small scale industries in the industrial set up of the country.

Policy measures

The Government of India and state governments have been adopting several measures in the form of incentives to promote and strengthen the small scale industries since independence. The need for providing incentives to small scale industry has been stated in the Industrial Policy Resolution of 1948 as, "the healthy expansion of cottage and small scale industries largely depends upon a number of factors like the provision of raw materials, cheap power, technical advice and organised marketing for their products."

The Industrial Policy Resolution of 1956 has observed that, "the state has been following a policy of supporting cottage and village and small scale industries by restricting the volume of production, differential taxation and extending direct subsidies."

The Industrial Policy Resolution of 1977 has emphasised the need for promotion of cottage and small scale industries and their dispersal in small towns and rural areas. The focal point of development was shifted from big cities and state capital to district headquarters. The number of products reserved for exclusive manufacture by small scale industries has been increased significantly. The list of items reserved for purchase by the government departments and public sector corporations has also been expanded.

The Industrial Policy Resolution of 1980 has suggested certain measures such as increased availability of raw materials, accelerated flow of institutional funds, establishment of wide entrepreneurial base by providing appropriate training and preferential treatment for industries started in backward areas.

In pursuance of the policy, several measures have been taken to develop and strengthen the small scale industries during the plan period. Reservation of certain varieties of cloth and agricultural implements, prohibition of further expansion in certain large scale industries, laying down of separate target for production by small scale industries and assured market for certain industries were some of the steps taken during the First and Second Plan periods. The Third Five Year Plan laid emphasis on encouraging the spread of small scale industries to rural areas and small towns by making available the institutional finance, subsidies, sales rebate and sheltered market and progressively making it an ancillary to large scale industry.

The Fourth Plan proposed certain assistance namely modernisation of production techniques, improving skill of workers, supply of technical assistance, better equipment and credit to make industries viable, widening the range of products and promotion of exports.

The Fifth Five Year Plan emphasised the need for promotion of entrepreneurship, provision of consultancy service, application of modern technology to make the units viable and provision of incentives to attract engineers to start industrial units. The Sixth Plan suggested certain steps such as increased availability of raw materials, accelerated flow of funds, organisation of producer oriented marketing, establishment of wide

entrepreneurial base by providing appropriate training and preferential treatment to industrial units started in backward areas.

The various policy measures introduced by the Government of India and the emphasis given in Five Year Plans have led to an array of incentives available to entrepreneurs of small scale units for starting and running the industrial units. The incentives are given in the form of concessions, assistance, facilities and subsidies. The impact of such incentives on small scale units in micro level has been analysed.

Available incentives

At present a number of incentives are offered to small units. The Small Industries Service Institutes, Small Industries Development Corporations and public sector banks conduct Entrepreneurial Development programmes for developing entrepreneurial and managerial skill through direct experience and supply of information about the region and industrial potential. They provide the prospective entrepreneures consultancy service in areas like projects selection, preparation of project report and market surveys. In order to provide all facilities required by entrepreneurs to run small scale units in one place, industrial estates have been constructed by the state governments and Small Industries Development Corporations.

State Financial Corporations meet long term fixed capital requirements of small scale units under various schemes such as Composite Loan Scheme, Soft Loan Scheme and Technocrat Scheme. Commercial banks have evolved various schemes namely Entrepreneur Scheme, Equity Fund Scheme and Mini Loan Scheme to extend credit facilties to entrepreneurs.

Investment subsidy is given to small scale units set up in backward areas. Machines are supplied on hire purchase basis by the National Small Industries Corporation. For nurturing the small units in the initial stages of growth, special incentives namely interest subsidy, transport subsidy, power tariff subsidy, sales tax subsidy, interest free sales tax loan, water charges subsidy and the like are provided. Supply of scarce raw materials such as iron and steel, coke, match wax, paraffin wax, potassium chlorate and the like at controlled rates to needy small units, technical assistance through Small Industries Service Institutes to upgrade the skill of workers, increasing the productivity and improving the quality of goods produced, modernisation programme for upgradation of obsolete technology, government store purchase programme for assisting marketing of products by small scale industries, tax incentives and export and import incentives are some of other incentives provided for the sustained growth of the small scale units.

Besides, the Government has reserved 873 items for exclusive manufacture by small scale industry. For providing assured market the Central Government has reserved 409 products for exclusive purchase from small scale sector. Sub-contract exchanges for creating link between small and large scale industrial units, trade centres to disseminate market information and consortium marketing are other measures to provide assured market for small scale units.

Empirical study

A study of the impact of incentives on small scale industrial units in Madurai District, an industrially backward area in Tamil Nadu has been undertaken. There are about 3244 registered small scale units as on 31.3 1985 in the district. A sample of 66 units have been selected by random method. The study is an empirical research based on survey method. Data relating to small scale industrial units have been collected directly from small entrepreneurs through personal interview. An interview schedule has been used as a tool for collecting data.

The Impact of incentives has been measured in terms of location decision, investment, development of entrepreneurship, agglomeration of industries, employment generation, increase in production and capacity utilisation.

Location decision

Availability of market, transport facility and materials are the basic requisites for plant location. Besides the above factors, entrepreneurs are influenced by financial incentives such as concessional finance and investment subsidy. In order to find out the impact of financial incentives on the location decision of entrepreneurs a content scoring scheme has been evolved.

Ten factors that influenced the location decision of entrepreneurs have been selected for the study. The entrepreneurs were asked to rank these factors in the order of importance. Weight is assigned to each rank as it has been given by the entrepreneurs. Most of the entrepreneurs in the sample units could rank only four factors. Hence weight could be assigned to four ranks only. The weight for each rank is assigned as follows. The factor which is ranked first by the entrepreneur is allotted four points, the second rank three points, the third rank two points and the fourth one point. Altogether a total score of ten has been allotted for the ranks given by entrepreneurs. All the sixty six entrepreneurs have ranked the location factors given in the interview schedule. So the total score of 660 has been distributed to all factors on the basis of ranks given by the entrepreneurs. The content scores secured by the location factors are shown in Table 1.

Table 1 shows that concessional finance has emerged as the most dominant factor influencing location decision of entrepreneurs.

Investment

The entrepreneurs with necessary skill, training, technical know-how and experience hesitate to invest in small scale units due to paucity of funds and uncertainty in getting adequate profit. The financial institutions provide financial assistance at liberal terms which

Table 1

Content Scores of the Location Factors

Sl No	Location Factors	Number of Units: Rank I	Rank II	Rank III	Rank IV	Total Content Scores
1.	Concessional Finance	24 (96)	12 (36)	8 (16)	8 (8)	156
2	Investment Subsidy	6 (24)	10 (30)	9 (18)	10 (10)	82
3	Availability of Cheap Land	5 (20)	8 (24)	7 (14)	8 (8)	66
4.	Availability of Factory Shed	9 (36)	2 (6)	0 (0)	5 (5)	47
5	Availability of Cheap Labour	2 (8)	4 (12)	9 (18)	9 (9)	47
6	Availability of Market	12 (48)	18 (54)	13 (26)	11 (11)	139
7.	Availability of Raw Materials	2 (8)	4 (12)	8 (16)	7 (7)	43
8.	Location of Similar Units	3 (12)	6 (18)	7 (14)	0 (0)	44
9	Transport Facilities	0 (0)	0 (0)	1 (2)	2 (2)	4
10	Personal Factors	3 (12)	2 (6)	4 (8)	6 (6)	32
	Total	66	66	66	66	660

enable entrepreneurs to take up small scale units. The subsidy provided by the Government for industrial units started in backward areas is the non-equity participation in the industrial units which either reduces entrepreneur's capital or borrowing from financial institutions. The interest burden gets reduced when the borrowed capital forms a lesser protion of the amount invested. In order to find out the impact of concessional finance, the share of financial institutions and investment subsidy in total investment in the units under study is shown in Table 2.

Table 2

Sources of Capital for Sample Units

Sl. No	Sources	Amount (Rs)	Percentage
1.	Own Capital	1,04,06,200	39.66
2.	Commercial Banks	35,55,700	13 55
3.	Tamil Nadu Industrial Investment Corporation	96,44,290	36 75
4.	Investment Subsidy	21,14,870	8.05
5.	Other Sources	5,19,000	1 99
	Total	2,62,40,060	100.00

Table 2 reveals that 58.35% of fixed investment in small scale units is made by financial institutions and the Government (item 2,3,& 4). This indicates that entrepreneurs are motivated to start small scale units due to the availability of financial incentives.

Agglomeration of industrial units

The small scale units by producing and selling goods required by the people in the region promote the agglomeration of industries in the area and provide secondary employment opportunities in trade and business for the people in the area. If the sale of industrial units is more in the local market, the region would be more benefitted. In order to find out the agglomeration of industries in the district, the percentage of sales effected within the district and other markets has been considered. Table 3 shows the percentage of goods sold in various markets by 66 sample units.

Table 3

Marketing Pattern of Sample Small Scale Units

Sl. No	Percentage of Sales	Number of Units: Madurai District	Other Districts	Other States
1	1 - 25	12	10	9
2	26 - 50	12	12	3
3	51 - 75	7	9	5
4	76 - 100	23	2	3
	Total	54	33	20

Table 3 shows that 54 units have sold their products within the district. Out of these units, 23 have effected sales ranging from 76 to 100 per cent. This analysis reveals that the market base of sample units is strong in the district. So, the incentives have the effect of inducing entrepreneurs to set up industries which have local market.

Development of entrepreneurship

In backward regions, the economic and social overheads are poor and so the tempo of growth of entrepreneurship is slow People hesitate to take up industrial ventures because it requires large capital outlay and high organisational and managerial skill. Financial institutions established by the central and state governments offer assistance to potential entrepreneurs to start industrial units. In order to study the impact of incentives on the growth of entrepreneurship, the number of units promoted by entrepreneurs and their investment and employment generated in these units are analysed (vide Table 4).

Table 4

Number of Units Started, Investment Made and Employment Generated by the First Generation Entrepreneurs

Sl. No.	Details	New Entrepreneurs	Established Entrepreneurs	Total
1	Number of Units	59 (89.4%)	7 (10.6%)	66 (100%)
2.	Investment (Rs)	2,08,04,660 (79 62%)	54,35 400 (20 38%)	2 [illegible],40,060 (100%)
3	Employment	679 (84 35)	126 (15.65)	805 (100%)

Table 4 indicates that 59 units have been promoted by the first generation entrepreneurs and they control 79.62 per cent of the total investment and 84.33 per cent employment in sample units.

In order to highlight the impact of financial incentives on the promotion of small scale units by the first generation entrepreneurs, the share of financial assistance in the total project has been analysed (vide Table 5)

Table 5 shows that financial incentives in the form of concessional finance and subsidy constitute the bulk of project cost of industrial units set up by unemployed, former employess of private industries, government servants and traders. This indicates that the first generation entrepreneurs are motivated to start their own industrial ventures due to the incentives given by the Government and financial institutions.

Employment generation

One of the major objectives of the development of small scale industries through incentives is to create employment opportunities. Hence the impact of finanical assistance on employment is studied by comparing financial incentives given and workers employed during the years 1980-81 and 1984-85 by applying geometric mean. Financial assistance and workers employed in small scale units in 1980-81 and 1984-85 is shown in Table 6

Table 6

Financial Assistance and Workers Employed in Sample Units in 1980-81 and 1984-85

Year	*Financial Assistance (Rs)*	*Number of Workers*
1980-81	*36,23,630*	*137*
1984-85	*1,53,14,860*	*805*

The geometric mean of financial assistance between 1980-81 and 1984-85 shows an annual increase of 43.48 per cent where as geometric mean of persons employed between the two years shows an yearly increase of 55.69 per cent. It is evident that finanical assistance has the effect of providing more employment opportunities in small scale units.

Increase in production

The impact of financial assistance on production is analysed by studying the relationship between the financial incentives and industrial production. Table 7 indicates the financial assistance given and index of industrial production in sample units from 1980-81 to 1984-85.

Table 7

Financial Assistance and Index of Production in Sample Small Scale Units from 1980-81 to 1984-85

		Financial Assistance (Rs in lakhs)	*Index Number of Production*
1	1980-81	36 2	100 00
2	1981-82	60 9	227 10
3	1982-83	72 1	309.26
4	1983-84	110 1	413.88
5	1984-85	153 1	651.18

An analysis of the relationship between assistance given and index number of production reveals that there is a high positive correlation (0.99) between the two. Hence financial incentives have the effect of increasing production.

Conclusion

The incentives have been successful in drawing potential entrepreneurs within the industrial fold. As a result the investment, employment and production have increased manifold in the small scale sector. ❑

Table 5

Share of Financial Institutions and Government Subsidy in the Project Cost of units started by First Gneration Entrepreneurs

Sl No	*Previous occupation of First Generation Entrepreneurs*	*Own Capital*	*Subsidy*	*Assistance from Financial Institutions*	*Total Investment in fixed capital*	*Percentage of financial assistance in Total (2+3)/4 x 100*
		1	*2*	*3*	*4*	*5*
1	Government Service	34,47,100	5,91,920	26,31,000	66,70,020	48 32
2	Trading	21,10,200	3,30,000	25,96,000	50,36,200	58 09
3	Employment in Private Industries	33,04,320	5,73,530	30,69,790	69,47,640	52 44
4	Construction Activities	2,92,000	4,000	82,700	3,78,700	22 89
5	Unemployed	4,75,560	2,38,550	10,58,000	17,72,100	73 16

Dr. S. Radhakrishnan —A towering personality

Dr. A. S. Narayana Pillai

The article is a tribute to Dr. S. Radhakrishnan during his centenary year 1988. A teacher, a thinker, a philosopher, a writer, a visionary, a humanist and above all a man of action. Dr. Radhakrishnan embodied all these traits in one personality. We cherish memories of this great teacher-statesman with love and reverence.

SEPTEMBER 5TH IS THE BIRTHDAY OF Dr. S. RADHAKRISHNAN. A grateful nation is paying its tribute to this great teacher of modern India by celebrating this day every year as *Teacher's Day* 1988, was the centenary year of the birth of this outstanding philosopher and thinker who was in the line of the great Acharyas of this land. The year was celebrated in many parts of the world to honour his memory.

A great teacher

Dr. Radhakrishnan started life as Assistant Professor of Philosophy in the Presidency College, Madras, in the early decades of this century. And then, in a long and distinguished career, he became Vice-chancellor of the Andhra and Banares Universities, Spalding Professor of Eastern Religions and Ethics at Oxford (Great Britain), India's Ambassador to U.S.S.R., Vice-President of India for two terms and President of India— rising from humble beginnings to the highest position in the land.

To move with kings, says Rudyard Kipling, and not lose the common touch, Radhakrishnan also moved with kings and potentates, world leaders in politics, in business, in science, in arts and letters. He never lost the common toch. Throughout his varied career, he remained a teacher first and last. And the world was his classroom. The last tribute to him as a world teacher was the Templeton award which he won just before his passing away.

Many have noted, for instance, that he conducted the proceedings of the Rajya Sabha during his term as Chairman as a conscientious and able teacher conducts his class— reprimanding, helping, encouraging, pointing out mistakes in speech and demeanour. Of course, the force of his personality was such that members spontaneously accepted this role of his. He maintained the dignity and decorum of the House.

Lord Avon, former Prime Minister of Great Britain, mentions in his 'memoirs' his visit to India and his being invited to address both the Houses of the Indian Parliament. Radhakrishnan, as Chairman of the Rajya Sabha, presided and introduced the speaker in a few well-chosen words, delivered with characteristic ease and spontaneity, and sat down. Lord Avon says, that he rose in his seat and felt like a school boy standing before his Headmaster or words to that effect. And this, let us remember, comes from no ordinary man. Lord Avon had seen a great part of the world and, as Sir Anthony Eden, Britain's Foreign Secretary, played in the Thirties and Forties of this century many distinguished roles on the international stage .. To make such a man feel like a school boy !

Indeed the teacher in Radhakrishnan stood out in every context. Who is an ideal teacher? What is his place in society? What are his responsibilities, what are his privileges ? Referring to a truly religious man, Radhakrishnan says, "The function of a religious man is to disturb, his duty is to wake up the sleepers, to shake the pillars of orthodoxy. When we listen to him, we are troubled and made unsure of our accepted habits. He draws our attention to the distance between our professions and our practices." (address at the Centenary Convocation, University of Madras, January 1957). These words can equally well apply to a great teacher— and to Radhakrishnan. For over half a century, this erudite scholar had disturbed us, awakened the sleepers and shaken the pillars of orthodoxy and drawn our attention to this distance with his characteristic fervour and remarkable distinction of phrase.

He had spared no one, not even Professors and Universities and those who run the Universities. Listen to this. "A college does not beome a University simply because we make the Principal the Vice-chancellor and the Superintendent the Registrar. The change in name must imply a change of character. To deserve the name of a University, there are certain minimum requirements. It is not necessary for academic men to live in luxury; but they must be able to live in comfort." These words seem to have no date. They are always relevant.

In June 1956, Radhakrishnan visited Moscow as Vice-President of India. He was honoured by being made an Honorary Professor of the University, he said,

"It is the function of a teacher not to give the pupils what they want but make them want what he gives them. I will use my privilege as a Professor to rebuke you, if I find that you go wrong. I hope that you do not claim infallibility." This again is a succinct statement of the teacher's role.

This teacher's privilege to rebuke, he has used always with telling effect and without fear or favour from the national platforms and international forums.

He was laying the foundation stone of the office of the Accountant General in New Delhi in February 1956. Addressing the officers he said. "The great weakness of our people which has become almost a national failing is factitious spirit and group loyalties Sacrifice of national interests for personal ambition or group loyalties has impaired our social fabric. Recent happenings demonstrated that we have taken national unity too much for granted. Our national consciousness has not aquired full emotional meaning. Factions and divisions infect our lives from the village level to the national : all further progress depends on the unity of the country. We must develop a pride in our independence, gratification in our increasing influence in international affairs, and reverence for the great leaders who have helped us to attain the present status. Against the background of all these, the passions of the present are most unfortunate." A realistic assessment—the words have almost a contemporary ring!

On another occasion, addressing his countrymen Radhakrishnan points out, "In present-day India we find a few living in luxury, while the millions are terribly emaciated with nothing to cover their nakedness but a rag for the middle of their bodies, shivering in the cold of dawn and sweating in the heat of noon, toiling without cease for a scantly subsistence. When we look at the vast scale of suffering, we feel that we are perhaps the most corrupt generation of the human race."

Radhakrishnan carries these to the international forums too when the occasion demands it. He was welcoming the delegates to the UNESCO General conference in New Delhi. It was an international forum: he was addressing the world. He told them:- "The advanced nations from whom we expect leadership are failing us. They wrecked the League of Nations, and if we were not vigilant and if the pressure of public opinion does not restrain them, they are likely to wreck the United Nations."

In June 1956, as Vice-President of India he visited Poland and was invited to address the University of Cracow. Referring to the United Nations, he said, "We need today a sense of humility. We must give up the attitude of self-righteousness, that we are right and our opponents wrong, or the attitude that we may not be perfect but that we are cetainly better than our opponents. We must abandon the sense of moral superiority. We must realise that we are slaves of fear, of unlimited egoism. "He that is without sin among you, let him cast the first stone."

In the same year Radhakrishnan visited Prague. Replying to the state reception accorded to him, he said, "You, Mr. President, referred to the Panchashila as the new code of international morality : peaceful co-existence, non-aggression, non-interference, mutual assistance etc. It is one thing to subscribe to these principles, quite another to implement these in actual life. We have all subscribed to the United Nation's Charter which asks us to adopt the principles of racial harmony, economic and social equality and political freedom. But the mere subscription to the Charter of the United Nations has not enabled us to work those principles out in international life. What is necessary, therefore, is the development of a new spirit. We need, not a *programme* but a *new vision* and a *new outlook*."

At a Kremlin reception given to him by President Vereshilov of U.S.S.R., Radhakrishnan gently reminded those in authority that "The state exists for man and not man for the state. Karl Marx complained about the capitalist order that for the enormous majority it gave mere training to act as machines, that it destroyed the humanity of the proletarian, that the individual was deprived of his privacy and right to personal development. Any system which suppresses the individual is un-Marxist... If we give people education and economic opportunity, they will demand freedom of inquiry and criticism. As collective leadership increases, there will be more democratic control of state policies, open discussion of these first within the party and then in public." How prophetic. !

A great thinker and writer

Radhakrishnan was not only a great teacher of world stature. He was one of the outstanding thinkers and writers of this generation and an impressive public speaker. About half a century and more of writing and speaking has earned for him a distinctive place among the writers and thinkers of this century. His published works run into several titles.

When he was in his thirties, he was honoured by the Trustees at Oxford who invited him to deliver the Upton Lectures. These were later published under the title, "THE HINDU VIEW OF LIFE." When he was forty he was invited to deliver lectures under Hibbert Trust in London. These were published under the title, "AN IDEALIST VIEW OF LIFE." Warning the world against a religion that divorces spiritual realisation from earthly life, he says "Religious men seem to have developed unduly the instinct for being unhappy.They seem to have a perverted ingenuity for finding out new contents for sin." (P. 32). This is a sample of his gentle ironical touch !

Complex issues in philosophy and religious thought are handled by Radhakrishnan, as many of his students and admirers know, and as one of his publishers points out, "with the clear ease and authority of one of the profoundest philosophers of East or West" (George Allen & Unwin (India) Private Limited, 1971).

What is the role of the scriptures ? "The sacred

scriptures", he writes, "make the life of the spirit real even to those who are incapable of insight. Men, in the rough and tumble of life with their problems and perplexities, sins and sorrows, have no patience for balanced arguments or sustained meditation, but they want some formula or rule of life which they can accept as valid. Through it they are inducted into a new way of life." (p. 15, The Hindu View of Life.).

Radhakrishnan's two volumes on 'Indian Philosophy' (First published in 1927 under the "Library of Philosophy" series) have remained a classic ever since and become a 'must reading' for any student of Indian Philosophy in all the Universities of the world. Look at his summing up of Sankara's role "Supreme as a philosopher, and dialectician, great as a man of calm judgment and wide toleration, Sankara taught us to love truth, respect reason and realise the purpose of life. Twelve centuries have passed and yet his influence is visible. He was not a dreaming idealist, but a practical visionary, a philosopher and at the same time a man of action, what we may call a social idealist on a grand scale. Even those who do not agree with this general attitude to life will not be reluctant to allow him a place among the immortals."(Vol II, P. 658).

Radhakrishnan's epigrammatic sentences in many of his works live in our memory. Speaking of a generation that has lost its values, he moans, "We are not men, we are not individuals. We are wrecks of men, shells of individuals. We are human automata. Our responses are formal, our reactions imitative. Our lives lack grace, depth and power." Again, "A classic is a comtemporary of every age." And "History will judge us by our deeds, not by our beliefs."

In all his speeches and writings, as the world of scholarship has acknowledged, are evident his deep erudition and wide humanism. He is indeed one of the greatest humanists of our age. In the concluding paragraph os his 'Reply' to his critics who assessed his works in a volume compiled by Prof. Schilpp of U.S.A., Radhakrishnan writes most movingly, "The common people of the world have never known freedom. The forces of privilege and oppression have kept the freedom for themselves, and the masses of people have had to work on conditions laid down for them or starve and die."

It is the memory of this great teacher, thinker, writer, philosopher-statesman and humanist that we are honouring during this Centenary year. For those who had the privilege of knowing him personally, it is a sad thought that they will no longer be able to sit at the feet of this great Acharya and get his wise counsel. No longer will they hear from the platforms or on the air his resonant voice, his measured diction and sit charmed by his dazzling eloquence. □□□

Energy : Conservation the chief source

Bhushan Marwah

In this piece, the author laments that energy conservation in India is not being given due importance. However, in view of the growing significance of conservation of energy, D.V. Kapoor Committee on energy conservation was set up by the Government. The author here discusses energy conservation measures following the recommendations of the Committee.

THE "CONSERVATION ENERGY" is being increasingly recognised now as the key energy source in the industrialised countries all over the world. Unfortunately in India, it is yet to receive the desired level of emphasis and attention.

In view of the growing significance of conservation as the "cheapest and readily available alternative energy source" the Government is actively considering to set up Energy Conservation Commission to make the coordination among various agencies for energy conservation more effective.

The inter-ministerial working group on utilisation and conservation of energy (also known as D.V. Kapoor Committee on energy conservation) had recommended the setting up of an apex level steering group headed by the Chairman of the Advisory Board on Energy to ensure coordinated implementation of the programme in the field of energy conservation.

After examining various options Government allowed a separate energy conservation wing to be set up in the Department of Power to perform the coordinating role. Subsequently, the coordinating mechanism was strengthened by appointing an Adviser, Energy Conservation in the rank of Secretary in the Cabinet Secretariat. Presently, Advisor, Energy Conservation is functioning as a nodal point with support from the energy conservation wing in the Department of Power.

However, in a recent official review of the progress made in the field of energy conservation it was felt that this arrangement too, is not adequately responding to the requirement and as such setting up of an energy conservation commission to make the nodal set up more effective is called for.

The Government has also lately reviewed the progress in implementation of the various recommendations made by the committee on energy conservation.

It is felt that since the recommendations are basically indicative of the directions in which Government's efforts towards conservation of energy has to be channelised, their implementation is a continuing process. However, it is ensured that the energy strategy of the Government encompasses most of the measures suggested in the Kapoor Committee report.

Revolving fund

The Government is yet to take a decision on the recommendation of the committee for creation of a revolving fund to implement conservation measures. The Committee has suggested that energy conservation schemes in the industrial sector could be financially supported through a revolving fund to be expanded by around Rs. 100 crore ever year, over a span of 10 years by levy of energy conservation cess on industrial consumption of petroleum products, coal and electricity.

Incentives

With regard to the committee's recommendation on giving incentives for users and manufacturers of equipment conducive to energy conservation, Department of Power had commissioned a survey through the national Council of Applied Economic Research to gauge the effectiveness of the prevailing incentive scheme and to ascertain the industry's response to various other incentives recommended by the Kapoor Committee. The NCAER has recently submitted a draft report which is being examined by the Government in consultation with the relevant organisations.

Energy audits

The Government has also impressed upon all the public sector Units the importance of energy audits particularly in the units dealing with energy intensive industries. Many of them have already instituted a system of getting energy audits done periodically.

International assistance is also expected to be available for launching energy audits in small and medium scale units which do not have sufficient expertise or facilities for the purpose. The matter is being discussed, with the European Economic Community (EEC).

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Consumerism calls for consumer education

P. Rama Krishna

The author here points out that the fundamental goal of consumerism, i.e. the enhancement of quality of life, will remain unattainable unless consumer protection is supplemented with consumer information and education. To enable consumerism develop into a strong force, as in U.S.A., he feels the loopholes in the present consumer protection laws must be plugged immediately.

THE ISSUE RAISES THE SUBJECT OF "CONSUMERISM", a much less known concept in India as compared to the West and particularly U S.A. Consumerism is an organized movement of concerned citizens and Government to enhance the rights and powers of buyers in relation to sellers. The first consumer protection efforts actually began with the development of early civilizations. Early Mosaic and Egyptian laws governed the handling of meat, Greek and Roman laws prohibited the adulteration of wine, and in 300 B.C. India imposed punishment upon adulteration of grains and oils. So Consumerism is not something new.

Consumerism in India has so far addressed itself to protecting consumers against questionable products and marketing practices. But the fundamental goal of Consumerism namely the enhancement of the quality of life remains unaccomplished until consumer protection is supplemented with consumer information and education.

Until about a century ago consumers had little need for help in protecting themselves. They bought a limited list of relatively simple products from local trades people they knew well. With the development of modern technology and large scale enterprises, new and complicated consumer problems have arisen, out of the complexity of the things consumers buy and the nature of the market place in which they buy them.

Counterfeits galore

An increasing proportion of consumer purchases are complex and difficult to judge; they often involve mixtures of ingredients, elaborate electronic circuitry, or the application of esoteric scientific findings. The staple purchases of yesteryear—Coffee, sugar, nails and a dress fabric-make up a relatively minor portion of purchases today. In the past, it was possible to examine and judge most products before purchase, since many products were sold in bulk, unpackaged, Usually, those that could not be evaluated before purchase could be evaluated easily on the basis of their performance.

Today's consumers still buy many things that can be evaluated by observation or on the basis of experience; but they buy more and more items whose quality and performance must be taken on faith. It is difficult for consumers to know whether the prescription drug they take really is effective. The same problem applies to judging services, especially professional services. Consumers rely on professionals both to diagnose a problem and to specify a treatment. Few consumers are in a position to evaluate how well these services have been performed.

The complexity of today's products and frequent changes in product design also may make products more susceptible to incorrect use or misuse. The result may be unsatisfactory performance or, in more serious cases, health and safety hazards.

In India Government needs to concentrate its forces on those practices that truly harm competition and injure consumers. One such practice, which is also a matter of global concern, is product counterfeiting. The mention is not just limited to counterfeit detergents, soaps audio & video cassettes (popularly known as video piracy) but pharmaceuticals, pesticides & foodgrains (adulteration) as well. It has been widely reported in the press that adulterated pesticides have been responsible for the damage of cotton crop in Prakasam district of Andhra Pradesh, which led to suicide of helpless farmers. Further adulterants as *kesari dal* is freely mixed in pulses and *besan* which if consumed could cause paralysis of legs. Used motor oil is used as an adulterant in oils and papaya seeds in black pepper that could cause diarrhoeas, vomitting and cancer.

There are many other counterfeit products that could be life-or health-threatening. Virtually every product line has been infiltrated by counterfeits. And the problem is not just limited to consumers health and safety. Counterfeits cause vast economic loss to consumers and steal the rightful gains of honest manufacturers and labour.

[illegible] relationship of sellers and buyers, another group of problems arises from the indirect effects of the production consumption process. These spillover effects include such costs as damage to local water supplies from chemical wastes, from the production process and damage to public health and property from auto exhaust fumes. The costs of spillovers do not fall only on the manufacturers and users, rather they affect the whole community and become the concern of all.

The tools of regulation

In India consumer protection regulation has focussed largely on the prevention of problems and abuses. A basic tool of prevention has been the imposition of standards—criteria against which something can be judged or evaluated. Standards may be used as the basis for prohibiting the manufacture and sale of products judged unsafe or they could form the basis for quality control, specification and performance.

In India, certain Acts like the Indian Standard Institution (certification marks) Act, the Prevention of Food Adulteration Act, Drugs and Cosmetics Act, the Standards of Weights and Measures Act, Monopolies and Restrictive Trade Practices Act are a few measures taken by the Government in consonance with the Directive Principles of State policy to raise the level of nutrition, the standard of living and improvement of public health. To some extent, these are in the direction of consumer welfare but how far they have protected their rights is a mute point. The MRTP Act, for instance, does not cover public undertakings. Further there is a conspicuous absence of any provision for the recovery of damages for any loss suffered.

CPA 1986

A legislation, directly seeking to provide for better protection of consumers known as the Consumer Protection Act, 1986 came into force with effect from December 24, 1986. This sought, inter alia, to promote and protect the rights of consumers, such as:

(a) the right to be protected against the marketing of goods which are hazardous to life and property.
(b) the right to be informed about the quality, quantity, potency, purity, standard and price of goods to protect the consumer against unfair trade practices;
(c) the right to be assured, wherever possible, of access to a variety of goods at competitive prices;
(d) the right to be heard and to be assured that consumers' interests will receive due consideration at appropriate forums;
(e) the right to seek redress against unfair trade practices or unscrupulous exploitation of consumers; and
(f) the right to consumer education.

Judicial machinery

To provide speedy and simple redress, a quasi- [illegible] State and Central levels. These will be [illegible] presided over by a District judge retired or in service, a High Court judge and a Supreme Court judge. It will have other members of ability, integrity and standing, having experience or knowledge of the problems relating to economics, law, commerce, accountancy, industry, public affairs or administration. One of the members shall be a woman. There are procedures for preferring complaints and appeals against orders of the lower authority. The monetary jurisdictions respectively are Rs. One lakh. Rs. 10 lakh, and above ten lakh. In addition, there will be councils for consumer protection at District, State and Central levels. The objective of the Council is to promote and protect the rights of the consumers in respect of the matters listed in the previous paragraph.

There are definitions of consumer, consumer dispute, service, etc. Service will include provision of facilities in connection with banking, financing, insurance, transport, processing, supply of electrical or other energy, boarding or lodging or both, entertainment, amusement or the dissemination of news or other information. There is a provision for dismissal of complaints which are frivolous or vexatious. Every order made by the District Forum, State Commission or National Commission is enforceable as if it were a decree. There are provisions for penalties for non-compliance.

Consumer education

In India there are no doubt enough laws & measures that could ensure consumer protection and service. But the people, by and large are unaware about rights and powers of consumers. Owing to causes as illiteracy and low income levels, consumerism has not developed into a strong force as in U.S.A.

What is worse, even the leaders of the Consumer movement in India as the voluntary organizations are not familiar with the rules, regulations and procedures of bringing to book questionable manufacturers, traders and sellers. They are not to blame for this. Consumerism as a mass movement is a relatively new phenomenon. As such, the matter is in a theoretical form lacking practical direction. It is only with the enactment of the Consumer Act of 1986 that this reality has surfaced.

Many of the members of the state's Consumer Protection council, members of the Consumer redressal forums at the district, state and national level are mostly political appointees who lack the knowledge and commitment of the cause of Consumerism. The purpose for which the Act has been brought into existence will be defeated unless these members are imparted a carefully prepared syllabus on consumer education.

The first stage in consumer education is to develop a brief syllabus, under the supervision of the state governments, taking into account all existing laws and

(Contd. on page 30)

Changing dimensions of public debt in India

Dr. C.M. Chaudhary

The author here analyses the causes for the unbridled growth of public debt in India. The danger of growing public debt and its implications mortgages the economic future of the county and puts the nation at risk, says the author. Lamenting over this predicament, the author puts forward positive suggestion to tide over the problem.

THE UNBRIDLED GROWTH IN PUBLIC DEBT has been a matter of great concern in recent years in India. The Economic survey has pointed out the "disturbing feature of the centre's budgetary developments," and "the emergence and widening of the deficit in current account since 1979-80. The deficit as a proportion of GDP at current market prices which was only 0.6 percent in 1979-80, had reached 2.5 percent in 1986-87 (R.E.).

Mr. N.A. Palkhivala had drawn the attention on the danger of growing Public debt and its implications for the present and the future generations on the Union Budget 1988-89 in the following words.

"The most alarming feature of the Budget is the unbridled growth in the total liabilities of the Government, which include not only what is narrowly and misleadingly called the "national debt" but also liabilities to repay the citizens the amounts due to them on account of provident funds, small savings, etc. It puts the nation at risk. The interest burden and repayment burden will have to be shouldered by our children and will have to be discharged by taxation on them. For years to come, the dead hand of the excessive national debt will continue to rest heavily upon the productive energies of the country.....As a compulsive borrower, the Government is mortgaging the economic future of the country."

Recent Trends

According to the Reserve Bank's assessment the centre's tax to GDP ratio rose from 10.3 percent in 1980-81 to 19.9 percent in 1984-85 and further to 12 percent in 1986-87 while the ratio of non-plan expenditure to GDP increased from 10.2 percent in 1980-81 to 11.6 percent in 1984-85 and to 13.8 percent in 1986-87. There had been a persistent divergence between the rates of growth in revenue receipts and revenue expenditure. It has not only adversely affected the revenue raising capacity but also diverted resources from the Plan to non-plan expenditure.

The impact of mounting debt on capital accumulation at macro-economic level has been described by Professor James Tobin in the following words:

"The more the central Government borrows, the less is available for capital accumulation by business households, and local government and for the acquisition of net claims against the rest of the world. Less is available, that is, for those allocations of wealth which are the sources of productivity advances and future imports. The burden of Public debt on our children and on our children's children is that we collectively bequeath them smaller stocks of assets on which their living standards will depend."

Causes of mounting Public debt

There has been emerging and widening deficit in current account since 1979-80. The deficit as a proportion of GDP has been growing at a higher rate. Tax revenue did not show improvement. It has increased from 10.6 percent in 1984-85 to 12 percent of GDP in 1986-87. There are various causes of rise in current expenditure. One of the major items of expenditure is interest Payments. This has increased from about 2.2 percent of GDP in mid-eighties to the current level of 3.3 percent. Other factors which have contributed to the rise in revenue expenditure are subsidies (1.8% of GDP), amounts of grants to states and union Territories (2.7 percent of GDP) and defence expenditure which *rose from 2.8 percent during the last decade to 3.8* percent of GDP in 1986-87. The burden caused by interest payments can be gauged from the fact that their magnitude is as high as that of defence expenditure. Prof. James Tobin has rightly pointed out the burden caused by interest payments with mounting Public debt. he said" interest rates cannot be taken as constant while the debt grows relative to the economy. Increases

in interest rates are the mechanism by which government borrowing squeezes out capital investment. As the capital stock declines relative to output, its rising marginal productivity pulls interest rate up. The vicious circle is that the higher rates in turn accelerates the growth in debt." The RBI Annual Report for 1986-87 has pointed out that there had been a persisting imbalance between the growth rates in revenue receipts and current expenditure, and has observed that this structural imbalance between the two reflected primarily the fact that the buoyancy of revenues with respect to income at current prices (1.022 over the period 1974-75 to 1984-85) was lower than that of revenue expenditure (1.232 during the same period). The report has also identified the major factors responsible for the acceleration in the rate of growth in non-plan expenditure as defence, interest payments and subsidies. The share of these items in total non-plan expenditure had risen sharply from 67.2 percent in 1984-85 to 73.3 per cent in 1987-88 union Budget. It concluded "The higher growth rate in non-plan expenditure not only neutralised the effect on the rise in revenue but also has pre-empted resources away from the Plan."

Generally it is believed that a large part of the market borrowing by Government for asset creation would ultimately pay off the debt burden. The Reserve Bank has revealed the actual position and said, "Excessive borrowings store up problems for the future, especially when the rate of return on the assets created out of these funds falls short of the interest to be paid ....more importantly there is need to contain the growth in non-plan expenditure."

The Comptroller and Auditor General in his latest Report on Public Debt laid on the table of Parliament on July 29, 1988 observed that the Government's total liabilities have increased by 179 percent from Rs. 59,749 Crores in 1980-81 to Rs. 1,66,545 Crores in 1986-87. As a proportion of GDP, the liabilities were 64 percent at the end of 1986-87. It is a matter of great concern that the high level of borrowings by the Govenment has been responsible for leading to a situation in which liabilities of Government has exceeded the assets. This excess which stood at Rs. 79 Crores in 1980-81 is likely to rise further to Rs. 40,079 Crores in 1988-89, The facts reveal that if the present rate of borrowing continued, the Government will be required to manage an extremely difficult internal debt situation.

Borrowings for productive purposes has been ignored in recent years. The experience since the Sixth plan has been that public borrowing was resorted to by the Government more to bridge the structural resource imbalance between revenue and expenditure. According to the Report of Comptroller and Auditor General of India, while receipts had grown at the average of 17.2 percent, the revenue deficit had grown at the average rate of 18.3 percent over the same period. The revenue deficit had increased from Rs. 293 Crores in 1981-82 to Rs. 7,599 Crores in 1986-87. The report has further commented that the trend since 1980-81 indicated that such sharp increases in the size of the deficits were invariably associated with a corresponding increase in Public borrowings and deficit financing. The trends in Public debt of the Government of India can be seen from the following table :

Table 1

Public Debt of Govt. of India

(Rs. Crores)

	1977-78 (Actual)	*1986-87*	*1987-88 (Revised)*	*1988-89 (Budget)*
Internal	19,025	86,313	99,520	1,14,405
External	8,985	20,299	22,518	25,539
Total	28,010	1,06,612	1,22,038	1,39,944

Source—Economic survey, Govt. of India. 1988-89

The table reveals that the internal borrowings has increased six-fold while external borrowings has increased more than three times during the period 1977/78- 1988/89. The total Public debt of the Govt. of India has increased from Rs. 28,010 Crores to Rs. 1, 39,944 Crores during the same period. One of the facors leading to mounting Public debt is the increasing growth of non-plan expenditure in recent years which can be seen from the table given below:—

Table 2

Non-Plan Expenditure

(In Rs. Crores)

	1985-86 (Actual)	*1986-87 (Revised)*	*1987-88 (Budget)*
Development Expenditure	30,852	36,394	36,325
Percent	58.1	56.5	53.7
Non-Development Expenditure	22,260	28,032	31,315
Percent	41.9	43.5	46.3
Total	*53,112 (100)*	*64,426 (100)*	*67,640 (100)*

The table shows that the percentage of development expenditure to the total plan expenditure has decreased from 58.1 to 53.7 during the period 1985-88 while the non-development expenditure has increased from 41.9 to 46.3 percent during the same period. It has not created the capital assets and consequently the problem of its repayment has again forced for the borrowings by the Government. It is a dangerous trend in the economy. According to Mr. N.A. Palkhivala "In 1988-89, the total liabilties of the union Government will come to Rs. 2,24,000 Crores and the total interest burden will form the largest item of non-plan expenditure, even more than defence which will cost Rs. 13,000 Crores. Further borrowings of Rs. 27,000 Crores are planned for the next year, which means that half of the fresh borrowings would be merely to discharage the interest liability."

External borrowing as a means of financing internal fiscal deficits is not desirable and it would only shift debt servicing burden from the internal to external front. The Country's position in regard to external debt servicing ratio has crossed the safe limit of 20 percent and is above 24 percent today. Whatever the country is borrowing is not being used for productive purposes and is being used for non-development expenditure. The latest world Bank Report on India has rightly pointed out that external borrowings is no panacea to mounting internal debt burden and the dependence on this source would be even more dangerous.

Suggestions

Eminent economists like Dr. Man Mohan Singh Dr. I.G. Patel and Professor Bhabatosh Datta have expressed their fears of India entering into an "Internal Debt Trap". The problem of mounting Public debt in a developing country like India can be remedied if the following suggestions are taken into account while framing various expenditure plans and fiscal apparatus—

(1) The external borrowings should not be resorted to bridge the internal revenue-expenditure programmes. The resources should be used for productive purposes so that permanent assets can be created, it will generate the productive and repaying capacity in the economy.

(2) The increasing non-development expenditure should be checked by adopting a measure of, "Economy in Administration". Overstaffing in Public sector undertakings should be avoided.

(3) The efficiency and productivity of Public sector undertakings should be increased by taking revolutionary measures like professional managers, optimum utilisation of installed capacity, reduction in the cost of production, better industrial relations through compulsory recognition of majority union on the basis of verification of members, avoiding delay in decision making etc.

(4) A ceiling on the public borrowings should be imposed by amending the Indian constitution as suggested by Dr. B.K. Madan, A tried and practical formula should be evolved for the limits within which such borrowings should be allowed as adopted by some industrially developed countries. The Ninth Finance Commission appears to have found merit in the gradual phasing out of the revenue deficit to zero level over a period of six years.

(5) Governments at the central and state levels are spending a huge amount on various developmental programmes under Integrated Rural Development Programmes (I.R.D.P.) which should be effectively evaluated and there should be a post-credit supervision on all these programmes so that permanent assets are created leading to a source of generating employment opportunities and incomes in both rural and urban areas.

(6) Taxation, Deficit financing and Public borrowings are the three sources by which funds are raised by the central Government for its developmental and non-developmental programmes. Agricultural Income tax should be levied in order to contribute to the Govt. exchequer as a huge amount of plan outlays had been spent. It will reduce the dependability of the Government on Public borrowings.

Thus, all the measures are suggested to reduce the dependability of the Government on the Public borrowings. But these measures pre-suppose the strong and firm political decision by the Government in power. Idle capacity of Public sector undertakings should also be utilised to generate additional resources which need the professionalisation of managers in the sector. ☐

(Contd. from page 7)

(DIETs) is also a noteworthy step of the NEP. Provision for distance education has also been made in the sphere of higher learning. The setting up of the Indira Gandhi National Open University (on the lines of the Andhra Pradesh Open University) is consequence of the same provision. This is a welcome move indeed considering the vast number of boys and girls now left out of the traditional education system. All in all, given the 60 per cent mass illiteracy even today, the contrymen will continue to watch patiently the 'meticulously formulated strategies based on microplanning and applied at the grass-root level all over the country to ensure children's retention in schools' coming out effectively successful. ☐ ☐ ☐

(Contd. from page 27)

measures that provide consumer protection. Then regular classes should be conducted to all appointees of consumer forums & Commissions before they begin to discharge their duty of providing redressal to consumer grievances. Simultaneously consumer education should also be provided to voluntary consumer organisations to make them impart the same knowledge to public and thereby enabling them to operate independently & efficiently. In due course this knowledge will percolate down to the actual consumers. Frequent reference to consumer problems in the press, district & state redressal forums, immediate redressal of consumer grievances will all go to activate popular interest on Consumerism. An active and informed body of consumer representatives will be a guarantee of mass participation and support to the cause of Consumerism.

Conclusion

Consumerism has changed a great deal since its beginning in ancient civilizations. Consumers should understand business and government just as business must know its customers and government its citizens. The three sectors must work together, recognizing that while conflict is unavoidable, co-operation is possible. The standard of consumer service and protection could then be raised even higher. ☐ ☐ ☐

Step pricing system for foodgrains procurement

Dr. B.K. Arora

The author here suggests a pricing system which he calls 'step-pricing' in place of the present system of fixing procurement prices for agricultural produce in each season. Under the suggested system, the price of agricultural produce is to be fixed at one level but it will increase on monthly basis. The author explains the new method and feels that it will help prevent involuntary and early disposal of agricultural produce by the farmers.

THE MAIN POINTS OF FOODGRAINS STORAGE in the national network (of storage) are storage at the farm level and storage with the government. The balance between the two depends upon the procurement policy of the government. It may induce the farmer to sell his produce in the immediate post harvest season by deciding to buy foodgrains at higher than the expected price level. Otherwise, it may adopt a policy wherein farmers tend to retain the grains with themselves and slowly release it in the market. While, there are no two opinions on the fact that government needs to procure foodgrains to feed its public distribution system, it is also essential that the procurement is smooth and does not create unnecessary strains on the procurement and storage system. The step pricing system is a mechanism which can meet both these objectives simultaneously.

Current pricing system

The current system of price fixation allows a single procurement price for an agricultural produce. The procurement price is in the form of support price, fixed by the government on recommendation from Agricultural Prices Commission. The price is normally fixed before the harvest of the crop. The procurement is done by the government agencies at the support price, thus fixed. The consequences of single pricing system are as follows:

The produce is brought by the farmers to the market for sale immediately after harvest. Since all the farmers bring their produce to the market in a very short span of time, there is heavy rush in the market. As a result, market infrastructure is over strained and farmers have to face various difficulties in disposal of their produce.

As arrivals are limited to a short period of time, the procurement agencies operate in the market for a limited period. Thus, the facility of support price is available to the farmers only for a short period. Thereafter the prices are determined by the traders who tend to exploit the farmers. This becomes cause as well as effect of quick disposal and non-retention of the produce by the farmer.

The procurement agencies also experience an uneven load. While the procurement staff is over-burdened during the short period after harvest, it has lack of work during other time and has to be diverted to other jobs.

The rush purchases by various procurement agencies also result in poor quality control of the procured produce. The short period available with the farmers also does not allow them to clean and dry their produce before taking it to the market. Thus, the goods procured, in many cases, do not meet the specifications and deteriorate faster in storage.

After harvest of one crop, the farmers have to start procurement of inputs and preparation of field for next crop. Any delay in sowing or inability to procure inputs has an effect on the yield of next crop. Thus, the intervening time is very crucial for him. But, a part of this time is lost by him in marketing of produce and arrange money for meeting his requirements for next crop. He can save time if the marketing operations can be postponed and credit is available to him.

Thus it is seen that the current system of single procurement price induces un-necessary rush and strain on the marketing system, procurement agencies as well as the producers. The system needs to be replaced by an alternative system which allows the farmers to sell his produce as and when he wants without any financial disadvantage and strain to him.

Step pricing system

Introduction of step-pricing system is proposed in place of fixed price system. Under this system, the price of the produce will be fixed at one level but increase on

monthly basis. The fixation of step price will be governed by the following method.

- A basic price will be fixed for procurement of produce during the month immediately after harvest. The basis and procedure for fixing this price will remain same as being currently adopted for fixation of support price.
- An increase in price per month will be provided to compensate for storage charges and cost of capital held in the form of value of produce.
- A monthly incentive will be ensured to the farmers with a view to induce him to postpone the sale of his foodgrains.
- The quantum of monthly incentive may be made uniform or varied depending upon the procurement objectives. However, for the purpose of succeding calculations a uniform rate of incentive per month has been assumed.

Calculations of step-price

Let P = Basic Procurement Price (Rs./Qtl.)
s = Monthly storage charges (Rs./month/Re.)
r = Monthly rate of interest (Rs./month/Re)
C = Monthly rate of incentive (Rs./month/Re)
m = Period elapsed (month)
Pm = Procurement price after 'm' months (Rs./Qtl.)
S = Total storage charges during 'm' months (Rs./Qtl.)
R = Total interest charges during 'm' months (Rs./Qtl.)
C = Total value of incentive during 'm' months (Rs./Qtl.)

Then $P_m = P+S+R+C$
Where $S = P.s.m$
$R = P.r.m.$
and $C = P.c.m.$
$P_m = P + P.s.m. + P.r.m + P.c.m.$
$= P\ (1 + sm + rm + cm)$
$= P\quad 1+m\ (s+r+c)$

Advantages

It is envisaged that the new pricing system will end most of the bottlenecks in the current disposal system of agricultural produce. It will prevent involuntary and early disposal of produce by the farmers. Instead farmers will be tempted to store their produce and dispose it off only when it is convenient to them. Thus, the pressure on the farmers to dispose-off their produce will be removed and they can utilise their time after harvest in more gainful works.

The undue strain on market infrastructure and the procurement agencies will be significantly reduced. The load on these agencies will be more uniform. This will also help in improving the quality of procured goods. As a results of storage by farmers at local level, the load of shrot-term storage and quick transportation by the procurement agencies will be considerably reduced and distributed. This will help in reducing multiple handling, transit storage, quick transport and thereby reducing losses in these operations.

The farmers will not only be assured of a support price throughout the year but also get compensated for the costs incurred by them for holding their stocks. The system of incentives will act as inducement to the farmers to store his produce. The scheme of incentives can be suitably designed by the procurement agencies so that the regulated flow of the foodgrains takes place to the market. The incentives can be built-in in such a manner that these help in orderly procurement, handling, storage and transport of the stocks. □ □ □

(Contd. from page 25)

Energy efficiency

Besides, the feasibility of co-generation of power by industrial units which have the potential, is being assessed and the administrative and legal bottlenecks are being identified. The Advisory Board on Energy in consultation with the concerned agencies is evolving a strategy to be adopted for promoting co-generation.

The petroleum conservation research association as well as the Department of Surface Transport have initiated action in pursuance of the recommendation of the Kapoor Committee on conservation of energy in the transport sector. Railways have also initiated steps to achieve reduction in fuel consumption per unit of traffic namely 1,000 gross tonnes kms.

In this context the Kapoor Committee lays emphasis on the need for educating vehicle drivers in correcting, operating and maintenance practices, using fuel prices as an instrument for encouraging energy efficient mode of transport, creating appropriate maintenance skills and facilities in automobile garages, encouraging fuel efficient technologies for vehicles and optimising internodal mix of public transport.

In the agriculture sector, a pilot programme of rectification of about 25,000 electric pumpsets has been implemented in six States through the public sector Rural Electrification Corporation. The programme has indicated an improvement in energy efficiency of about 28 per cent per pumpset on an average. Funds have already been sanctioned for taking up further demonstration schemes covering about 15,000 pumpsets.

The State Governments and State Electricity Boards have also been asked to amend their power supply regulations to ensure that the pumpsets installed in future conform to a specified level of energy efficiency. Model draft amendments and guidelines have been circulated to State Governments and State Electricity Boards.

A training programme is also being organised through Rural Electrification Corporation for officers of the State Electricity Boards, State Governments and Banks so that they can guide the farmers in choosing and installing properly matched and efficient pumping systems. □ □ □

(Courtesy : Spotlight, AIR)

BOOK REVIEW

ART OF MANAGEMENT — M.K. Rustomji & S.A. Sapre Published by : Macmillan India Limited, New Delhi 1983, pp. 192, Rs. 20.00

Over the years many books have been churned out on different aspects of management, some of them quiet good but many really fail to see the wood for the tree.

Through this book the authors have attempted to give an insight about management by juxtaposing real life picture with theoretical aspects in the background. They have been fairly successful.

The book follows a peculiarly down-to-earth pattern of lucid and laconic presentation. Though the book is comprehensive in terms of coverage of topics, it primarily deals with general management of large organisations. It discusses, explains, interprets and simplifies ideas of world leading management experts.

The book is divided into seven sections. Each section starts with a few introductory paragraphs with pithy sentences.

The first section is related to marketing in which authors have highlighted the fact that consumer is a king and the purpose of business is to create a customer.

The second section of Human Relations give commendable coverage to self discipline and developing good industrial relations. This section perfectly opens this truth that a man can be truly happy when he is engaged in some meaningful work and that self-respect improves efficiency automatically.

The third Chapter entitled manager gives secrets of a competent manager. The author has accepted innovation as a measure of managerial competence and suggested 'THINK TANKS' for innovative research and development. They also have created EINSTEIN's formula,, whose essential idea is that work should become play.

In the fourth Chapter, authors have deviated from the traditional meaning of scientific management (shop management). Scientific management in this section cannotes an amalgam of certain areas of management such as co-ordination, control, communication etc. Authors point out that work is a group activity and guess work has no place in scientific management.

Chapter fifth which relates to Decision making lays down that decision making is both mathematics and poetry in the sense that there are two types of decisions finding out the truth and creating the truth.

Essence of the sixth chapter on organisation structure is that a manager has to create the necessary organisation for the fulfilment of his objectives; To elaborate the span of control the authors have taken the example of Esienhower who insisted on a wider span of control, because this, he thought would keep him in closer touch with the scene of action and thus enable him to inspire more people.

Lastly, in Chapter of 'Management Development' the authors have tried to explain that the management talent cannot be fabricated. It can be best grown like a tree.

The book is essentially well written and its strong points lie in its layout and presentation which is typical of the authors. Illustrations are delightfully eye-catching and imaginative.

The book however does not follow a particular plan and secquential arragement of topics of management areas. This lacuna is in a way inevitable in management literature. One authority can't highlight the best of all areas. Experts have their own fields of specialisation. In this book two authors have dealt with the areas about which they have, supposedly adequate experience and knowledge.

The book will not only be most useful to executives at all levels but also to students as it present the essentials of management.

Ragini Handa

Land reforms; Land consolidation and economic development in India by Jeffrey P. Bonner. Allied Publishers, New Delhi. 1987. Pages 167. Rs. 100/-

This little book on land consolidation is one in the series on 'Perspectives on Asian and African Development' contributed by eminent authors. Jeffrey Bonner is a renowned anthropologist having taught at University of Michigan and Columbia University.

Bonner worked in Kurukshetra, Haryana during 1979-80 at two research sites Sikh Pura and Jogi Pur (pseudonyms) near the towns of Kurukshetra and Thanesar. Sikh Pura is predominentry Sikh and Jogi Pur predominently Hindu. Both are of comparable population size of 120 families and physical area of 700 acres approximately. Consolidation took place in Sikh Pura from 1951-1952 and in Jogi Pur from 1962-63. Field work in these two villages was carried out during 1979-80. Fifteen years could be taken as a sufficiently long period to have the impact manifest itself. Both the villages are equidistant from the town of Thanesar and, in several respects, are representative of other villages in the region. They have common features.

The author has taken recourse to both secondary and primary data. Land records since 1984 were examined and a complete census was carried out in both the

villages deploying the questionnaire developed and used by S.S. Dhillon in 1975-76, giving thus a temporal perspective.

Consolidation is defined as the amalgamation and redistribution of lands of an estate to decrease the number of parts of that estate. The study examines the impact of consolidation at two levels viz, the level of the family farm and the level of the village as a whole.

For the individual farmer, consolidation has immediate and very important consequences. The average farm size increased greatly, thus raising the productive potential of the family farm. Because of a reduction in the number of fragmented fields, it resulted in considerable savings on time and effort required to transport material and equipment; capital duplication was avoided. It increased also the land area which could be effectively cultivated by decreasing the area devoted to bunds, banks and boundaries. Consolidation led to a general increase in the overall level of weed and pest control. But what is more important is the fact that consolidation enhanced the possibilities for the development of comprehensive small size irrigation (well) schemes, drainage programmes and other large scale improvements. Incidence of boundary disputes was also reduced, and agricultural planning and assessment were facilitated.

At the village level, the impact of consolidation can be viewed in terms of its impact on land utilisation patterns and its effect on the areal expansion of irrigation. The average size of holding increased and the holdings themselves were concentrated and centralised. As the areas under irrigation increased, the intensity of cropping increased substantially, and the instability was reduced considerably. The adoption of irrigation encouraged a shift in the village wide cropping patterns to the finer foodgrains cultivation of wheat and paddy. Agricultural system became increasingly modernised, undergoing progressive biological and mechanical technification. The advent of irrigation made it increasingly possible for the farmers to plant newer high-yielding varieties of crops. The average land value of holding increased and the overall standard of living improved significantly. It encouraged the development of education and levels of literacy, facilitated mobility and increased monetisation of agricultural inputs. The author also examines the impact on environmental modification and social change.

This is indeed a refreshing book, concise and having a perspective of long term change. Consolidation no doubt prepared the physical ground, but it is the remunerative prices which provided the economic incentive to farmers to grow wheat and paddy an aspect that the author overlooks. Also, the impact of urbanisation on village transformations can not be ruled out. Nevertheless, the author has done a commendable work in making us, the researchers and policy makers, better informed of the benefits of consolidation of agricultural holdings.

S.M. Shah

(Contd. from page 17)

workforce, they should be 'target-group' for all the programmes undertaken by the government. Women's organisations can also play an important role in awakening the women workforce for changing their attitutde towards work, earning and standard of living.

And finally, women workforce must be placed on the equal footing with men in all spheres of activity and the traditional view of looking at them as 'dependents' must be changed. ☐☐☐

Seminar on rice marketing grades and standards

A Week-long Regional Seminar on Government Paddy/Rice Procurement and Marketing Grades and Standards was held in New Delhi from December 12, 1988. Inaugurating the seminar, the Union Minister of State for Food and Civil Supplies, Shri Sukh Ram, said that there was a lot of scope for international cooperation specially within the countries in Asia and Pacific to develop marketing grades and standards for paddy and rice. He said the framework adopted by various countries was not the same which was posing constraints in the international trade.

The Minister said the success of the paddy grading system could be measured in the context of its ability to subserve the objectives of providing fair price to the farmers, reduction in processing losses, minimisation of malpractices in marketing and distribution and suitable increase in rice production.

Highlighting the importance of utilising paddy by-products, Shri Sukh Ram said that this aspect required greater attention. The rice bran, he said, was a valuable by-product of paddy milling industry. The country, he said, had a great production potential of rice bran oil. Its commercial utilisation could have a major impact on the farmers and paddy milling industry and in times on the national economy. The techniques based on scientific efforts to utilise rice bran for oil extraction needed to be translated into practice for greater production of both edible, non-edible bran oil, he added.

The Minister stated that in India paddy husk had also a lot of potential for production of energy and a stage had come where scientific approach had to be adopted in this important area aimed not only at production of energy but also for attaining higher economic returns to the farmers.

Specialists from nine countries of Asia and Pacific Region participated in the seven-day seminar which was sponsored by the Association of Food Marketing Agencies in Asia and the Pacific (AFMA), Food Corporation of India, Modern Food Industries Ltd., FAO, UNDP and NAFED to review developments in the field of paddy and rice grading. It also examined methods for formulating paddy and rice grading systems and to promote technical cooperation among developing countries in this field. ☐

Change in planning of cities urged

Smt. Mohsina Kidwai, Union Minister of Urban Development, has called for a change in physical planning of cities in order to make it more responsive to the needs of low income groups and informal sector for employment and basic services. The measures to improve the income and consumption levels of the poor households should be accompained by serious steps to extend basic services, access to upgraded and affordable shelter and support for innovative programmes of voluntary agencies with particular attention to the needs of women and disadvantaged sections of society.

Inaugurating the 24th meeting of the Central Council for Local Government and Urban Development and the 13th Joint meeting of the Local Government and the Executive Council of All India Council of Mayors in New Delhi recently Smt. Kidwai said that self-employment of the urban poor must be encouraged by appropriate credit support programme and some urban youth from poor households selected every year for training in various skills to get employment or start an enterprise with State support.

Smt. Kidwai stressed the need to consider follow-up action on the reconmmendations of the National Commission on Urbanisation (NCU) that power to supersede local body should be severely restricted and elections to local bodies held within a years after supersession. Referring to the Commission's recommendations about amending the Constitution to ensure setting up of periodic Finance Commissions to suggest principles for resource mobilisation and for devolution of funds to local bodies and the proposal to double the present outlay on urban sector, Smt. Kidwai said that these would be discussed with the Planning Commission in the course of finalising the approach to the 8th Five Year Plan before the end of this year.

The Minister called for a consistent and rational policy for the management of urban land. Effective land use planning and removal of various bottlenecks in the supply of urban land could help considerably in arresting the increase in land prices and removing the housing scarcity in urban centres. She underlined the need for a development strategy for an equitable distribution of urban growth through the dispersal of urban population among a larger number of urban settlements. ■■■

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SERC to train Young Scientists

Science and Engineering Research Council, under the Department of Science and Technology, has initiated a new programme to provide quick research support to bright young scientists. A series of summer and winter schools and training programme have been evolved.

The Science and Engineering Research Council was established in 1974. SERC is the mechanism through which the Department of S&T promotes research in newly emerging and frontier areas of science and engineering. Eminent scientists and technologists in different disciplines drawn from universities, national laboratories, and industry are members of the council.

Since the inception of the SERC programme more than 1200 projects have been supported at a cost of nearly Rs. 70 crore. About 60 per cent of the funds has been provided towards strengthening basic research activities in universities and academic institutions.

During the exploratory phase, new areas and capabilities were built by supporting projects of individual interest to scientists. In the preparatory phase, major emphasis was on identifying selected thrust areas in various disciplines and on supporting Thrust Area Programmes through a Programme Advisory Committee. During the research consolidation phase, activities planned earlier were consolidated through the establishment of centres and evolution of national programme on a long-term basis.

The establishment of the National Biotechnology Board (now Department of Biotechnology), the National Institute of Immunology, the Institute of Plasma Research and the recognition as an Institute of national importance to Sree Chitra Tirunal Institute of Medical Science and Technology have come about as a result of SERC support.

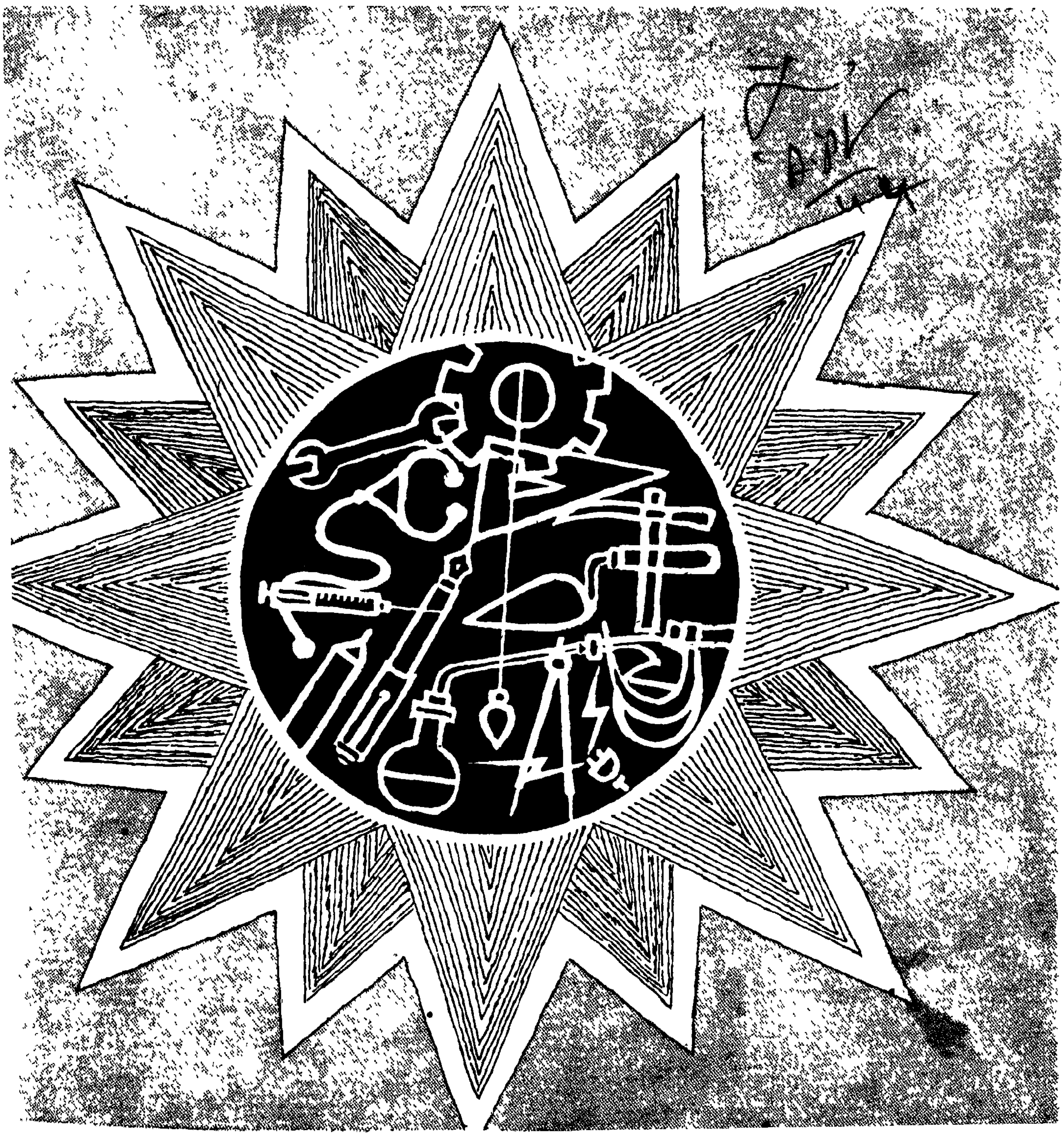
Major thrust in the Eighth Five Year Plan would include identification of new areas for research based on indepth reviews. During the current Year, national meetings have been organised in the disciplines of Engineering Sciences, Life Sciences and Chemical Sciences, to review and update thrust area programmes and for identifying new and challenging areas of science and engineering in the Eighth Five Year Plan for providing research opportunities to scientists.

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FERTILISER

yojana

Next issue:
Land Reforms **Vol. 33 : No. 5** **March 16-31, 1989 Rs. 2**



Diversification of Agriculture

A number of steps have been taken for diversification of traditional pattern of agriculture.

Farmers are being motivated to go for short duration varieties in place of long-duration varieties. Similarly, inter-cropping is being popularised in the areas where growing of crops is possible only in *one crop season.*

Other steps for diversification of traditional pattern of agriculture include, diversification of unbunded rainfed paddy land to less water exacting crops like maize, millets, pulses and oilseeds; popularisation of sequence cropping in rainfed areas where stored soil moisture can support such a cropping pattern, and popularisation of paira cropping in low lands where only one crop of rice is grown.

This information was given by the Minister of State for Agriculture Shri Shyam Lal Yadav in Rajya Sabha recently. ☐☐☐

Expansion of area Under Coconut

A Project for expansion of area under coconut has been started, under which 11, 426 additional hectares are to be brought under coconut cultivation in 14 States and 2 Union Territories. In Orissa alone over 677 hectares have been brought under coconut cultivation during the 7th Plan.

The outlay for the Project for the Seventh Plan is Rs. 328. 744 lakhs.

The Project also envisages maintenance of 3 lakh seedlings already planted in the canal embankments in Orissa and planting of 13,000 seedlings in the canal embankments in Karnataka. ☐☐☐

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Management of nutrient deficiencies in Indian soils

H L S Tandon

Indian agriculture has stepped into the era of multinutrient deficiencies. In this paper, the author presents the current scenario of nutrient deficiencies in Indian soils and the need for their management on scientific and well-coordinated lines. Correction of multiple nutrient deficiencies demands the generation and adoption of multi-dimensional blue-prints and action plans to ensure that these do not act as constraints in the way of higher yields, increased farm profits and better nutrient-use efficiency. While describing the importance of fertilisers in the management of nutrient deficiencies, the author also lists a number of tasks which lie ahead in the management of nutrient deficiencies.

SOILS ARE OUR SILENT CONTRIBUTORS towards the achievement of agricultural production targets. One of their key functions is to serve as the medium from which crops can absorb water and the 13 mineral nutrients which are essential for their growth, development and yield formation. These nutrients are: nitrogen (N), phosphorus (P), potassium (K), Sulphur (S), calcium (Ca), magnesium (Mg), zinc (Zn), iron (Fe), manganese (Mn), copper (Cu), boron (B), molybdenum (Mo) and chlorine (Cl).

All nutrients are present in all soils. Yet, many soils are often deficient in one, two or several nutrients from the point of view of practical crop production This is because either they do not contain adequate amounts of a nutrient in plant-usable (available) form or they cannot replenish the pool of available nutrient fast enough as the nutrient is removed by plant roots and other competing processes such as leaching There is thus a weak relationship between the total and available nutrient content of a soil* A classical example of this is the occurence of iron cholorosis in crops inspite of the fact that iron is one of the most abundant elements on the earth Practically no soil can sustain high yields or intensive cropping indefinitely out of its own nutrient reserves Soils are either inherently deficient in one or more elements or are rendered deficient as a result of continuous cropping and nutrient removal In his Presidential address to the 12th International Congress of Soil Science in February 1982, Dr J S Kanwar, while outlining the major soil problems stated that "nutrient deficiency is the major limiting factor for crop production in most of the world's soils " The Soil Bank of India, like any other bank will not allow huge withdrawals time and again unless the nutrient account is also replenished through deposits. Fertiliser is one of the main currencies through which nutrient deposits are made into the soil It is the responsibility of every farmer individually and a nation collectively to see that this bank does not go insolvent

Multiple nutrient deficiencies

Without going into the historical trends in the development of nutrient deficiencies over the years, the scenario has shifted from scattered single nutrient deficiencies to one of multiple-nutrient deficiencies To-day, at least five nutrients (N,P,K,S, Zn) are of widespread practical importance. On a lesser scale (but very important in the regions where they occur) are the deficiencies of iron, magnesium and boron

The emergence of multiple nutrient deficiencies is largely attributed to the accelerated removal of nutrients from the soil in the post "Green Revolution" period through bigger crop harvests. An equally important role in discovering these deficiencies and bringing them to wide attention has been played by the expansion in soil fertility research during the past

20-25 years. A third possible reason for accentuation of some deficiencies can be the leaching of nutrients as a result of heavy irrigations, specially in coarse-textured soils. Recently-reported deficiencies of manganese in some soils of Punjab under the rice-wheat rotation have been attributed to the leaching of manganese during the rice season.

In many coarse-textured alluvial soils, it is very likely that if a farmer is to grow good crops and harvest high yields, he has to look after 4 to 5 deficiencies on the same field at the same time.

Magnitude of deficiencies

A district-level summary of the fertility status of Indian soils with respect to N,P and K shows that the deficiencies of N and P are particularly extensive (Table 1) While the deficiency of N is almost universal barring some recently-cleared forests and some hill soils, in 98% soils available P is either of low or medium status The medium fertility category itself could represent a P-deficient situation when HYVs are grown and high yields are targetted. Potassium deficiency appears to be on the increase as shown by periodic soil fertility surveys

Table 1

A summary of the extent of NPK deficiencies in Indian soils

Nutrient	*Number of district with fertility rating of*			
	Low	*Medium*	*High*	*Total*
Nitrogen	228	118	18	364
Phosphorus	170	185	8	363
Potassium	76	159	125	360

Source IARI (1980)

With respect to the deficiencies of N,P and K, the entire country can be described by the following 13 combinations·

Fertility category N	*P*	*K*	*Percent districts in the category*
L	M	H	18 3
L	M	M	14 3
L	M	M	11 9
M	M	M	8 3
M	L	M	7 5
L	L	L	7 2
L	L	H	6 7
M	L	H	5 8
M	M	L	4 2
L	M	L	3 9
M	M	H	3 1
M	L	L	2 8
H	L	L	2 2

L = low, M = medium and H = high available nutrient status

Caution must however be exercised while using such results because these do not as yet take into account the well-known differences between soil properties and crop characteristics. A field can be deficient in P for wheat but not for rice *or* for potato but not for wheat or for sorghum but not for pigeonpea. Likewise at a given soil test value, a coarse-textured soil will be able to release K faster (and also get depleted faster) than a fine-textured soil.

Sulphur deficiencies are becoming important in many areas. Though coarse-textured soils containing low level of organic matter are most vulnerable to S deficiencies, the problem extends well beyond such soils and is becoming important in many parts of India. Part of the reason for this is, the largescale shift towards the use of fertiliser materials which contain little or no S. Sulphur deficiencies have tentatively been found to occur in 90 districts. It is neither to be concluded that all soils in such districts are S-deficient nor that all soils in the remaining 300 or so districts are well provided with S. The fact is that a great deal of more research is needed for the delineation of S-deficient areas, but corrective steps cannot wait till such delineation is complete.

Delibrations during the March 1988 TSI-FAI *Symposium on Sulphur in Indian agriculture* brought out that (i) seventeen percent Gujarat soils were S-deficient (ii) in Haryana, soils having less than 10% clay are expected to be deficient (iii) sulphur deficiencies are limiting crop production in many areas of Karnataka (iv) about 20-40% soil samples in the black soil region (18 districts) of M.P were reported to be S-deficient and (v) in some groundnut-wheat growing areas in Punjab and U.P , as many as 70-80% fields sampled were found to be deficient in S.

No estimates are available about the extent of Calcium deficiencies. These are expected in very acid soils or where Ca occupies less than 25% of the cation exchange capacity of a soil Nearly one-third of Indian soils are acidic in nature.

Information on the extent of magnesium deficiencies is likewise meagre Generally, Mg deficiency can occur if soil pH is less than 6 or Mg occupies less than 4% of the cation exchange capacity or in absolute terms, it is less than 1 meq/100 grams soil Some areas which are deficient in Mg are (i) Nilgiris in Tamil Nadu (ii) Malnad, southern plain, coastal and hilly areas of Karnataka, (iii) many areas in Kerala under foodgrain and cash crops and (iv) some acid soil areas in Himachal Pradesh

Among the micronutrients, deficiency of zinc is most widespread and of greatest practical significance. On the whole, 47% of over one lakh soil samples analysed from a number of states have been reported to be Zn-deficient (Table 2). The magnitude of zinc deficiencies is in fact frightening and in many cases, it could be next in importance to N or N and P. The impact of zinc deficiency will not be felt at low yield levels but as crop productivity per unit area increases, this could become a production constraint in more and more areas. Although zinc deficiency is considered to be a practical problem, the fact remains that the data base is meagre for nearly half of our soils, primarily in the states which are not covered by the ICAR's Coordinated Scheme on

Table 2

Overall status of micronutrient deficiencies in Indian soils

State	Zinc TSA	Zinc PSD	Iron TSA	Iron PSD	Manganese TSA	Manganese PSD	Copper TSA	Copper PSD	Boron TSA	Boron PSD	Molybdenum TSA	Molybdenum PSD
Andhra Pradesh	5450	47	3934	1	3934	1	3934	0				
Bihar	11783	45	10219	4	9994	2	11241	2	1060	40		
Gujarat	24062	25	24062	7	24062	1	24062	4	1715	1	1715	11
Haryana	15984	75	14290	32	13947	8	15251	4				
Karnataka	2318	24	2318	1	2318	1	2318	4				
Madhya Pradesh	9664	64	9091	5	8822	3	8807	1	1249	3	227	18
Punjab	14325	52	13548	15	13405	1	13515	4				
Rajasthan	460	0										
Tamil Nadu	9124	42	8648	17	6859	12	9129	10				
Uttar Pradesh	13975	59	12430	8	12656	4	12980	2	368	6		

Data source: Largely from Katyal (1985). In Uttar Pradesh, results of about 7000 analyses conducted by Tiwari, KN, CSAUAT, Kanpur have been incorporated. Rajasthan results are from arid zone.
(TSA -Total samples analysed, PSD-Percent samples deficient)

Micronutrient Research in Soils and Plants. It is not often realised that almost half of all the soil analyses for micronutrients have been carried out in Gujarat, Haryana and Punjab, three states which account for 12% of the agricultural area

Recent reports indicate that iron deficiencies are assuming importance in many areas which have alkaline, calcareous soils Manganese deficiencies are cropping up in coarse-textured soils under rice-wheat rotation. Boron deficiencies are becoming important in parts of Bihar, parts of West Bengal and according to the state department of agriculture surveys, in several soils of Karnataka

With increasing incidence of multiple nutrient deficiencies, it will become necessary to re-process the available information so that single as well as multiple deficiencies are brought out which integrate the status of macro as well as micro nutrients The net result should be nutrient-status profiles of each agro-ecological zone which have been identified for agricultural planning

The Dynamic Nature of Nutrient Deficiencies

Available nutrient status of a soil, like the level of water in a well, is not a constant but a dynamic feature It is influenced by a large number of factors such as the soil characteristics, type of crop and its variety, cropping intensity, yield levels, seasonal conditions and the gap between nutrient addition and removal from the soil system.

A fertile soil can become deficient over a period of time if it is intensively cropped without adequate nutrient application. The number of nutrients which are deficient at a site and the severity of deficiency can increase depending upon the inut-output balance The dynamic nature of nutrient deficiencies has at least two major implications:

It demands that a constant watch be kept on the nutrient dynamics of major-soil-crop systems in order to see the rate of fertility depletion or buildups. Soil testing laboratories should truly serve as the watch towers of soil fertility by monitoring some selected sites in their area.

The boundaries between primary, secondary and micro nutrients have no meaning in intensive, high yielding agriculture Any nutrient which is deficient in the soil, assumes primary importance A number of nutrient combinations which could be said to represent balanced nutrient application under different situations are given in Table 3.

Table 3

The many faces of balanced fertiliser needs

Situation	Components of balance
1 Newly-reclaimed alkali soil	N, Zn
2 Many areas in wheat belt, alluviums	N,P,Zn, N,P,K,Zn, NPKZnS, N,P,ZnS
3 Coconut in light soils and in root (wilt) affected areas	N,P,K,Mg
4 Immature Rubber	N,P,K,Mg
5 Many areas under oilseeds	N,P,S, N,P,K,S; N,P,Zn,S
6 Malnad area of Karnataka	N,P,K,S,Mg
7 Fruit trees in alkaline calcareous soils	N,P,K,Zn FeMn
8 Cabbage, cauliflower in many areas	N,P,K,B
9 Coconut in Assam	N,P,K,B
10 Legumes in acid soils	N,P,K, Ca,Mo
11 High-yielding Tea plantation	N,P,K,Mg, SZn

The dynamic nature of nutrient deficiencies comes into sharp focus when monocropped areas are brought under multiple cropping and the nutrient removal from the soil can become very high. Intensive crop rotations can remove 438-932 kg of N+P205+K20/ha annually (Table 4) which gives an indication of the depletion that can occur. Whenever there is a net nutrient depletion from the soil, there is a likelihood that the deficiencies will emerge sooner than expected and even become acute with the passage of time

Practising intensive cropping without unbalanced nutrient application results in accelerated removal of those nutrients which are not added. Results from a number of longterm field experiments show that the use of only N depleted the soils of upto 500 kg P 205/ha over an 8-10 year period. Here, the plant roots were

made to use N as a shovel for mining the soil of P which a good farmer must avoid since the phenomenon itself is short-lived. Similarly, while the mean annual removal of potash was 79 kg K 20 from unfertilised plots, it was 120 kg from plots which received N and as much as 207 kg K 20 from plots which received N+P, but no potash.

Table 4

Nutrient uptake by some high-intensity sequence-cropping and inter-cropping systems in India

Cropping system	Yield* (t/ha)	Nutrient uptake kg/ha/year N	P_2O_5	K_2O	Total
Rice-Wheat	8.8	235	92	336	663
Maize-Wheat	7 7	220	87	247	554
Pigeonpea-Wheat	4 8	219	71	339	629
Rice-Rice	6 3	139	88	211	438
Soybean-Wheat	7 7	260	85	204	549
Rice-Barseem	5 7+66 (fo)	274	91	248	614
Maize-Wheat-Greengram	8 2	306	62	278	646
Rice-Wheat-Greengram	11 2	328	69	336	763
Maize-Potato-Wheat	8.6+11.9 (t)	268	96	358	722
Maize-Rape-Wheat	8 6	250	94	240	584
Rice					
Rice-Wheat-Jute	6 9+2 3 (fi)	170	76	254	500
Soybean-Wheat-maize (fo)	5 8+5 1 (fo)	334	99	492	932
Rice-Wheat-Cowpea (fo)	9 6+3 9 (fo)	272	153	389	814
Soybean-Wheat-Potato	3 2+6.8 (t)	284	41	202	527
Rice-Wheat-Maize+Cowpea	9 3+29 (fo)	305	123	306	734
Pigeonpea+Sorghum**	0 8+1 1 (I)	185	19	299	503
Pigeonpea+P Millet **	0 7+1.3 (I)	203	14	336	553

*Under yield data fo is fodder, fi is fibre, t is tuber and all others are grain, (I) is yield of the intercrop.
**Intercropping systems

An overall analysis shows that nutrient removals by agricultural crops far exceed the nutrient additions through fertilisers, implying that the soils are gradually becoming poorer. The National Commission on Agriculture had computed the total nutrient removal for the year 1984-85 at 13.1 million tonnes N+P205+K20. In contrast, fertiliser consumption during that year was 8.2 million tonnes nutrients. While for a complete analysis, the contribution from organic manures and residue recycling as also the efficiency of different sources has to be taken into account, the overall assessment that the Indian soils are getting continuously depleted, remains.

Management of Nutrient Deficiencies

Key aspects in the management of nutrient deficiencies are to diagnose them, delineate them and drive them out of the soil-plant system-all aspects for which the necessary know how is readily available. A major role in assessing nutrient deficiencies belongs to the 450 or so soil testing laboratories which have been set up so far. Soil testing services, usually arouse high expectations in terms of providing tailor-made, site-specific fertiliser recommendations. Ideally, a soil-test based dose is balanced, efficient and profit maximising. However, it is very difficult to state with confidence what impact soil testing has made on the agricultural scene except creating a greater awareness for fertiliser use and providing the data base for generalised soil fertility maps.

By and large, the mainstay of fertiliser application (to overcome nutrient deficiencies) have been the general fertiliser recommendations which are available in each state. Usually, there are separate recommendations for local crop varieties and for the HYVs as also for irrigated and rainfed situations. These general recommendations have undergone varying degrees of specificity in different states and are increasingly being given for different soil groups, seasons and varieties of different duration. In some states, even block or village-level soil fertility maps have been prepared but how far these are used for advisory purposes is not known.

The most frequently adopted method for the correction of deficiency is to add that nutrient to the soil through a suitable source, often a chemical fertiliser Efficiency of the nutrient added is further enhanced or safeguarded if it is used according to the recommended times and methods of application and also on those crop varieties which can use the applied nutrients more efficiently. In many soils particularly having extreme pH problems (acid or alkali) use of suitable amendments can also lead to an improvement in the availability of several nutrients. Even though one-third of Indian soils are acidic in nature, it is unfortunate that the liming industry has not developed as vigorously as the fertiliser industry.

Following are some of the major sources of plant nutrients other than the soil reserves:

chemical fertilisers
farmyard manure, composts, organic wastes
green manures (mostly legumes)
biologically-fixed N through the legume-Rhizobium association, blue-green algae, azolla.

Indian agriculture depends heavily on the use of chemical fertilisers in order to supplement soil fertility and take care of nutrient deficiencies. During 1987-88, an estimated 9 million tonnes of N+P205+K20 were applied by Indian farmers. Out of this, 5.8 mt was N, 2.3 mt was P205 and 0.9 mt was K20. Since the deficiencies of NPK are encountered all over the country but almost 50% of the total fertiliser is used in & around 65 districts, it is clear that deficiencies in large areas remain uncorrected for a variety of reasons, but are nevertheless one of the most frequently cited reasons for low crop yields.

Table 5 lists several available materials which are used as sources of major plant nutrients. Out of these, Nos. 1-19 are in the Fertiliser Control Order (FCO) and

Table 5

Available materials for correcting major nutrient deficiencies

No. Material	Nutrient Content (%) N	P_2O_5	K_2O	Others	Nutrient Provided
1. Urea	46				N
2 Ammoniun Sulphate	21	–	-	24% S	N, S
3 Cal Amm Nitrate	26			10 20% CaO	N, Ca
4 Ammonium Chol-ride	26	–	–	Cl	N, Cl
5 Single Superphosphate		16	–	12% S & 20-30% CaO	P, S, Ca
6 Triple Superphosphate	–	46	–		P
7 Potassium Chloride	–	–	60	Cl	K, Cl
8 Potassium Suplphate	–	–	50	18% S	K,S
9 Diammonium phosphate	18	46	–		N, P
10 Urea Amm Phosphate	28	28	–		N, P
11 Amm Phos. Sulphate	20	20	–	15% S	N,P,S
12 Nitrophosphate I	15	15	15		N,P,K
13 Nitrophosphate II	20	20	–		N,P
14 NPK Complex	12	32	16		N,P,K
15 NPK Complex	10	26	26		N,P,K
16 NPK Complex	17	17	17		N,P,K,
17 NPK Complex	19	19	19		N,P,K
18 NPK Complex	14	35	14		N,P,K
19 Rock Phosphate	–	18-24	–	Ca	P,Ca
20 Gypsum				14-20% S&Ca	S, Ca
21 Pyrites				20-22% S&Fe	S, Fe
22 Phosphogypsum				11% S& Ca	S, Ca
23 Limestone				80-95% $CaCO_3$	Ca
24 Dolomite				20-45% Cao & 5-20% MgO	Ca, Mg
25 Magnesium Sulphate				16% Mgo, 13% S	Mg, S
26 Magnesite				40% MgO	Mg

are regularly featured in fertiliser statistics. Materials such as gypsum, pyrites, limestone, dolomite serve the dual role of a soil amendment as well as a fertiliser.

Over 20 million tonnes of fertiliser materials are distributed annually out of which four fertilisers (urea, diammonium phosphate, single superphosphate and muriate of potash) account for nearly 80% of the tonnage. Detailed statistics on the production, import, distribution and fertilisers are regularly compiled and published by the Fertiliser Association of India.

Although nearly half a million tonnes of S gets added to the soils annually through fertilisers such as ammonium sulphate, single super phosphate, potassium sulphate, ammonium phosphate sulphate etc this input is not apparently going to areas which are deficient in S in planned manner.

The micronutrient scenario is baffling. The FCO contains a handful of fertilisers (Table 6) while a recent survey by the author has brought out that over 200 micronutrient products are in the Indian market. In terms of volume, zinc suplphate is the most important one, but serious attention is not being paid towards the correction of micronutrient deficiencies. Whether it is zinc sulphate or any other micronutrient carrier dependable statistics regarding their production and distribution are not available, primarily because (unlike NPK) there is no organised attempt at collecting such data. Much of the zinc sulphate is produced in the heptahydrate form which has poor storage and handling properties. It is high time that steps are initiated for producing monohydrate zinc sulphate which has higher nutrient content, better physical properties, and lower per unit handling and storage costs. Unlike the

Table 6

Micronutrient Fertilisers included in the FCO

Nutrient	Material	Content
Boron	Borax	10 5% B
Boron	Solubor	19 0% B
Copper	Copper sulphate	24% Cu
Iron	Ferrous sulphate	19% Fe
Iron	Chelated iron as Fe-EDTA	12% Fe
Manganese	Manganese sulphate	30 5% Mn
Molybdenum	Ammonium molybdate	52 0% Mo
Zinc	Zinc sulphate	21% Zn
Zinc	Chelated zinc as Zn-EDTA	12% Zn

common NPK fertilisers for which the maximum retail price is constant throughout the country, retail price of zinc sulphate at any point of time varies from Rs. 4000 to Rs 7000 per tonne and that of chelated zinc from Rs. 90 to Rs. 300 per kg.

Tasks Ahead

The foremost task is to ensure that nutrient deficiencies do not act as a constraint in producing adequate food and fibre for a population of one billion, which is expected by the year 2000 AD. The goal should be not only to provide the food and fibre needs, but also to develop the agriculture sector as a vibrant one which should contribute massively to the foreign exchange earning through the export of traditional as well as non-traditional agricultural products.

Tasks ahead are colossal, but full of challenges and within the realm of accomplishment It is essential to view the changing scenario with an open mind, to develop mechanisms which can quickly and adequately respond to changing needs and instill a work culture which does not shy away from using modern tools, such as computers wherever they can help us to do a job faster and better.

Since a number of agro-ecological zones have been demarcated for agricultural planning, a zone-wise inventory of nutrient deficiencies supply arrangements and constraints should be prepared This should pave the way for area-specific blue prints and action plans which should be implementable

Soil fertility status maps should be continuously updated and have differences between soils and crops built into them. The district-level fertility map for P was published in 1979 and that of K in 1976. With one small computer provided to a central coordinating agency and an agreed upon format which includes all essential nutrients, such maps can be improved and updated, within a year.

Future extension literature of balanced nutrient application should reflect the latest developments, and should not just stop at NPK, even though these three elements will continue to be the main characters on the fertiliser secene, and right reasons

Management of nutrient deficiencies demands that adequate supplies of all such nutrients be ensured to the farmers at the right time, at a convenient distance and of course at an afforadble price. Timely availability is crucial in general, but particularly so in the dryland areas. Although fertilisers are distributed through a network of about 160, 000 retail points, it has been found that a dryland farmer has to walk travel 2.5 times longer to go to a fertiliser depot than a farmer in a predominantly irrigated area. The solution lies not simply in opening more fertiliser outlets but in developing a large number of composite input distribution centers where all farm inputs, related items and services are available under one roof, making it convenient for the farmers and increasing the economic viability of the enterprise at the same time. It would be worthwhile to invest in more number of farm service centers. In fact in a country with 70% population engaged in agriculture, there should be an agriculture input distributions point close to every bus stand.

Considering the importance of zinc and sulphur deficiencies, it is advisable to take into account the S content of fertilisers while formulating feriliser allocation plans so that to the extent possible, such fertilisers are used in areas which are also deficient in this nutrient. By doing so, fertiliser efficiency will improve. Subsidy programmes for correcting a nutrient deficiency should focus on the nutrient rather than on a particular material.

Within the arena of micronutrients, zinc deficiency will continue to be the problem number one. There is an urgent need to encourage, develop, and promote a healthy and vibrant micronutrient industry which can provide the much needed fertiliser of good quality on regular basis and at near-uniform price at all places in the country. Bringing micronutrients within the mainstream of fertiliser use planning is a worthwhile task for the future.

In conclusion, attention in the coming years should be focussed clearly and thoroughly on (i) ensuring adequate availability of plant nutrients required to achieve agricultural production targets (ii) integrating all the deficient nutrients into fertiliser planning and (iii) in initiating exercises which should examine the emerging deficiencies from a medium—long range point of view, and the associated nutrient requirements both at the national and agro-ecological zone level

It is well worth remembering that if the application of a nutrient can increase crop yield by say one tonne/ha, then the neglect of that nutrient can also deprive the farmer of the same yield. Both these condition can occur repeatedly year after year depending upon the decisions made while fertilising a crop.

There is a great deal of truth in the statement "Agriculture Cannot Wait". It cannot wait because individual plants cannot wait.

Small industries to be modernised

The National Small Industries Corporation Limited (NSIC), a public enterprise of the Ministry of Industry, has launced a Modernisation Implementation Programme for small scale sector with a view to modernising small scale units in the country. The programme will be implemented on a selective, phased, planned and integrated manner. The select units will be provided with inputs for modernisation through a time-bound programme like machinery and equipment, credit facilities, techno-managerial assistance, raw material and components training, etc. □□□

Fertiliser strategy for raising agricultural production

Dr. S.S. Khanna & Dr. M.P. Gupta

Fertiliser the spearhead of agricultural development has brought out a revolutionary change in the development of agriculture, say the authors of this article. After analysing the consumption pattern of fertilisers under various Five Year Plans, the authors say that the health of the soil should be ensured for achieving the maximum response from per unit of fertiliser application.

IN MOST OF THE DEVELOPING COUNTRIES, ALL OTHER sectors of economy are dependent on the progress made by the agricultural sector. Dynamic agriculture generates the establishment of agrobased industries and services It also provides labour and capital resources for the development of other sectors of the economy and contributes substantially to the Gross Domestic Product and export earnings In the developing countries, total cereal production has more than doubled while fertilizer consumption increased nearly twelvefold

The importance of fertilizer in agricultural development is clearly demonstrated by the data on fertilizer consumption and cereal production available for a number of countries (Table-1) These data have clearly demonstrated a positive relationship between

Table 1

Fertiliser consumption per capita, per hectare and yield of principal crops 1986-87

Continent/Country	Fertiliser consumption (N+P202+K20)		Yield per hectare			
	Per hectares of arable land	Per capita 1	Rice	Wheat	Maize	Potato
Egypt	319 3	16 8	5,714	4,718	4 824	20 395
Canada	47 4	85 2	–	1,950	7,022	26,420
U S A	91 8	72 4	6,143	2,531	7,494	33,721
Bangladesh	67 3	5 9	2 377	1,924	1,624	10,085
China	176 2	16 1	5,413	3 033	1,226	11,460
India	57 1	12 5	1,999	1,998	1,714	15,423
Israel	223 6	21 8		3 104	2,500	38,407
Japan	427 1	16 8	6,186	3,188	2,600	29,074
Korea Dem Rep	331 3	38 0	7,086	3,932	6,444	13,087
Korea Rep of	385 3	19 7	6,019	2,540	4,783	20,871
Pakistan	86 2	17 4	2,531	1,559	1,244	9 817
Belgium Lux	528 3	41 8	–	5,444	6,125	46,595
France	309 1	106 0	4,231	5,560	6,942	36679
German Dem Rep	331 2	98 5		5,520	4,000	24,565
Germany Fed Rep	427 9	52 3	–	5,820	6,323	32,500
United Kingdom	379 8	46 9	–	5,918	1,000	38,135
U S S R	114 1	94 6	4,500	1,860	3,217	12,086
New Zealand	621 9	96 0	–	3,780	9,615	29,474
WORLD	90 4	27 1	3,221	2,342	3,584	15,680

1—Based on total population

Source (1) 1987 "FAO Fertiliser Year Book" Vol 37, FAO, Rome

(2) 1987 "FAO Production Year Book", Vol. 41, FAO Rome

(3) 1987-88 EAI Fertiliser Statistics

the increase in fertiliser consumption and the increase in foodgrain production. The countries like Netherland, Belgium Lux, United Kingdom, Japan and others where the fertilizer consumption is high correspondingly the productivity of various crops is quite high. It is fact, vital for the developing countries to enhance the fertiliser consumption, if they are interested in increasing the food production of their country. Fertiliser may be justly defined as the 'sphere head of agricultural development'. While there is no doubt that a revolutionary change in agricultural development was brought about by the introduction of High Yielding Variety seeds, it is clearly certain that the food potential of these varieties could only be realised by the use of fertilisers. Over 50 per cent of the increase in yield on a per unit area basis on a world wide spectrum during the past 30 years has been due to increased use of fertilisers.

In many developing countries, the land/man ratio has narrowed to an extent permiting little further extension in cultivated area. Increased food production can only be achieved by improving the productivity of soils and crops, thereby obtaining the substantial increase in yields of various crops from per unit of acre.In developing countries like India, a 73 per cent increase in agricultural production is expected to come from increased yields, and only the remaining 27 per cent from increased area under cultivation. Thus, the use of fertilisers as an essential input for the growth of agricultural production cannot be over emphasised.

The total consumption of fertilisers in the country has risen from 69,000 tonnes in 1950-51 to 10.7 million tonnes during 1988-89. From Table-2 it would be seen that fertiliser consumption rose from 0 3 million tonnes in 1960-61 to 1 1 million tonnes in 1966-67 which evidenced the introduction of High Yielding Verieties of cereal crops. During the period 1966-67 to 1976-77, there was a threefold increase. In the 10 years ending 1985-86, there has been again a spectacular growth from a level of 2.9 million tonnes to 8.7 million tonnes, a three-fold increase. This rate of growth is among the highest in the history of world agriculture. The area covered by HYVs went up from 15.4 million hectares in 1970-71 to 57 million hecs. in 1985-86.

The growth pattern in fertiliser consumption among different zones of the country has been quite variable. Taking 1966-67 as the base year, the fertiliser consumption in the succeeding 20 years has gone up 25 times in the Northern zones. The increase in the Western and Eastern zones during this period is of the order of 7.5 and 9.3 times respectively and at five fold in the Southern zones. The zone-wise share of independent consumption as a proportion of national consumption varies from 13.6 per cent in the Eastern zone, 8.2 per cent in the western zone, 24.3 per cent in the southern zone to 43.9 per cent in the northern zone.

It would be seen from Table-1 that there exists a positive trend for fertiliser consumption and total foodgrain output though this may not be so as the weather also plays an important role to a certain extent in the fertilizer use.

State-wise fertiliser consumption

There are large variations in fertiliser use in different regions of the country. These variations are not only in the quantity of fertiliser used, but also in the consumption ratio of NPK in regions having identical agro-climatic conditions (Table-3) Among the different states of the country, Punjab has the highest per hectare consumption of fertilisers which is 159 kgs /ha as against 6 4 kgs /ha. in Assam and 13s kgs./ha. in the State of Rajasthan. The all-India average consumption of fertilizer is about 51

Table No. 2
Yearwise Fertiliser consumption and Foodgrains Production

Year	Nutrient Consumption Total N+P+K (million tonnes)	% increase over the previous year	Consumption per hectare (Kg)	Foodgrains production (million tonnes)
1950-51	0 069	—	0 55	50 92
1955-56	0 148	114 5	0 89	66.85
1960-61	0 306	106 8	71 93	82 02
1965-66	0 789	157.8	5 05	72.32
1969-70	1 982	12 6	12 21	99.05
1970-71	2 207	11 4	13 61	108 42
1973-74	2 839	2 6	16 71	104.67
1974-75	2 573	(-) 9 4	15 67	99 83
1975-76	2 894	12 5	16 93	121 03
1980-81	5 516	5 0	31 82	129.59
1981-82	6 064	9 9	34 27	133 30
1982-83	6 388	5 3	36 83	129 52
1983-84	7.710	20 7	42 75	152.37
1984-85	8 210	6 5	46 66	145 59
1985-86	8 737	6 0	48 67	150 44
1986-87*	9 002	3.0	40 67	144.07
1987-88	9 017	0 17	51.25	138 41
1988-89●	10.687	18 5	60'72	170.00●

* Estimated ● Provisional

Table 3

Statewise consumption of plant nutrients per unit of gross cropped area & production & Yield of foodgrains 1986-87 and 1987-88 (KGS/HA)

Zone/State	1986-87				Total foodgrains 1986-87			1987-88 @
	N	P.O	K.O.	Total	Area M.Ha.	Production M. Tonnes	Yield Kg/ha	Total
Assam	2 4	0.9	1.3	4.6	2 58	2 59	1004	6 4
Bihar	35 0	11.3	4 9	51 2	9 42	10 91	1158	58 4
Orissa	10 3	4 3	2 7	17.3	7.01	6 39	912	17.3
West Bengal	40.1	15.0	10 7	65 8	6 25	9 61	1538	74 0
Manipur	23.3	6.1	1 0	30 4	0 17	0.26	1529	34.0
Meghalaya	8.6	6.5	1.0	16.1	0 14	0 13	928	17 0
Nagaland	0 9	0.8	0 1	1 8	0 15	0 09	600	0.8
Sikkim	5 6	4.4	0 9	10 9	0 08	0 10	1250	11.8
Tripura	12 8	3 7	-2 8	19 3	0 27	0 40	1481	22 9
Haryana	59 3	14 9	1 1	75 3	4 14	7.64	1845	71.4
Himachal Pradesh	19 4	4.0	2 9	26 3	0 88	1 17	1330	25 6
Jammu & Kashmir	22.0	6.3	1 2	29 5	0 88	1 37	1557	37.9
Punjab	113 9	41.8	3 3	158 5	5 55	16 29	2935	158 5
Uttar Pradesh	52 9	13.7	3 9	70 5	20 61	30 25	1468	68 1
Chandigarh	225.0	42.5	2 0	269 5	—	—	—	122 5
Delhi	94 5	16 5	3 0	114 0	0 07	0.14	2000	—
Andhra Pradesh	47 8	19.8	6.3	73.9	7 71	9 16	1188	79.2
Karnataka	25 9	13.8	8 8	48 5	7 86	7 62	969	47 9
Kerala	21 2	12.5	19 0	52 7	0 70	1.16	1657	63 5
Tamil Nadu	54 3	20 2	20.7	95.2	4 13	7.16	1734	95 8
Pondicherry	181 5	62 1	95 2	338 8	0 03	0 06	2000	322 9
Gujarat	24 9	10 9	3 4	39 2	4 15	3 10	747	43 1
Madhya Pradesh	12 9	7 8	1 4	22 1	17 71	13 52	763	22 7
Maharashtra	19 5	7 8	4 8	32 1	13 66	7 14	523	36 2
Rajasthan	10 3	3 8	0 2	14 3	12 77	6 79	532	12 4
All India	32 8	12 0	4 9	49 7	127 19	143 42	1128	51 2

@ Provisional

Note -Figures for consumption of plant nutrients per hectare have been worked out on the basis of latest gross cropped area available for the year 1984-85

Source FAI Fertilizer Statistics 1987-88

kgs./ha. Tamil Nadu (95.8 kgs.), Haryana (71.4 kgs.), U.P. (68.1 kgs.) Andhra Pradesh (79.2 kgs) West Bengal (74.0 kgs.), Kerala (52.8 kgs.) and Bihar (58.4 kgs) are the states where the per hectare consumption of fertilizer is above all-India levels. All the other States are below the average

There are 139 districts whose average consumption is above the national average consumption of about 50 kgs./ha. whereas the number of districts having fertiliser consumption below the national average is more than 200. There are three districts in the country where the consumption is more than 200 kgs./ha., in 13 districts the consumption is between 150-200 kgs./ha., 34 districts between 100-150 kgs/ha , 89 districts between 50-100 kgs./ha., 89 districts between 10-25 kgs./ha., 54 districts where the consumption is below 10 kgs./ha.

During the last decade, fetilizer consumption has more than doubled in most of the States. The per hectare consumption has increased by more then 200 per cent in the States of M.P., Bihar, Himachal Pradesh, West Bengal, Jammu & Kashmir and Manipur, it has gone up by 150-200 in Haryana, Punjab and Tamil Nadu. The corresponding increase has been 100-150 per cent in the States of Kerala, Karnataka, Rajasthan, U.P., . Nagaland and Maharashtra.

In India, fertilizer is used on a variety of crops including foodgrains, oilseeds, sugarcane, cotton and other commercial crops. Among them, foodgrain crops like paddy and wheat are the major consumers of fertiliser. In a study on fertilizer conducted by the National Council of Applied Economic Research in 1978, it was found that 34.88 per cent of all fertilizer was used on paddy, 25.6 per cent on wheat, 8.03 per cent on sugarcane, 5.45 per cent on cotton, 2.30 per cent on groundnut and 1.60 per cent on maize. The remaining fertilizer consumption was accounted for other crops by, pulses, potatos, chillis, bananas, tobacco, jute and plantation crops and oilseeds.

Fertiliser in first three Five Year Plans

The country entered into an era of a planned economy after its independence through the mechanism of Five Year Plans. The first three Five Year Plans during the period 1951-52 to 1965-66 laid special emphasis on increasing agricultural production, and to sustain it, fertiliser was recognised as a key input. In fact, however, the bulk of growth in foodgrains production during the first Three Plan

periods came to a certain extent from the increased net acreage under cultivation from 119 million hectares in 1951-52 to 136 million hectares in 1965-66. There was not much of an emphasis on improving yields or on adoption of better farming techniques of which fertilizer use is an essential component.

It was around this time that the High Yielding Varieties of seeds were introduced which laid the foundation for the Green Revolution in India. At the same time, a new fertiliser policy was evolved to facilitate its domestic production and easier availability to farmer. Investment in fertiliser production was also opened to the private sector besides liberalising marketing and pricing policies.

Fourth Five Year Plan : 1969-70 to 1973-74

The Fourth Five Year Plan assigned high priority to agriculture and the objective of faster rate of agricultural growth with emphasis on a wider adoption of HYV programmes, increased and balanced use of fertilisers, extensions of soil testing facilities, intensification of extension and sales promotion,, effective adoption of plant protection measures, expansion of fertiliser retail network and increased and easy availability of credit. Greater use of green manure and conversion of urban waste into good quality organic manures were also included in the Plan. The development of fertiliser responsive HYV and hybrid crops brought forth fundamental and dynamic changes in the Indian agriculture.

Fifth Five Year Plan : 1974-75 to 1978-79

Since it was found that one of the major constraints to stimulating fertiliser consumption was inadequate availability in time of the right type of fertiliser to the farmer, the Fifth Plan laid emphasis on strengthening the infrastructure for fertiliser distribution (particularly of cooperatives) to ensure adequate and timely availability of fertilizers to the farmers These pragmatic and dynamic policies of the Government helped increase fertilizer consumption at a compound rate of growth of 18 7 per cent p.a. during the Fifth Plan period.

Sixth Five Year Plan : 1980-81 to 1984-85

In the Sixth Five Year Plan ending March, 1985, a high priority was accorded to bridging the gap between actual and potential farm yields even at current levels of technology It also emphasised the need to pay greater attention to marketing and trade and to institutional frameworks to minimise the handicaps of small and marginal farmers and maximise the benefits of intensive agriculture offered by small holdings.

During the Five Years (1980-81 to 1984-85) the fertiliser consumption increased by 2.95 million tonnes of nutrients and foodgrains production increased by 35.8 million tonnes.

Seventh Five Year Plan

While the overall thrust of policy aimed at further increasing fertiliser consumption continues, the Seventh Five Year Plan laid overwhelming emphasis on significantly increasing fertiliser use in rainfed areas which alone can help in sustaining the overall tempo of growth. In fact, the pattern of growth druing the Seventh Plan period has been conceived as a component of the overall strategy of consolidating on selfreliance in food upto 2000 A.D. The Seventh Plan envisages that nearly 80 per cent of the increase in agricultural productivity will have to come through increased use of fertilizers. During the Seventh Plan fertiliser consumption is expected to go up by 3.84 million tonnes which would give an additional output of about 30 million tonnes of foodgrains.

Factors affecting fertiliser use

The important factors which affect the fertiliser use are the favourable monsoon, seed availability of the high yielding variety, technological backup, availability of fertiliser of the desired type and at appropriate time with a credit facility. In this direction, recently, the Government of India in collaboration with State Governments, fertiliser companies and others have drawn a well planned polity, network and credit support. An endeavour has been made to see that the fertiliser is available in small packs of the high analysis fertilisers which can be conveniently purchased and stocked by the farmers. This would go a long way in promoting fertiliser use, particularly in the hill areas of the country and north-eastern States where presently the fertiliser consumption is very low

Agroclimatic conditions also play a major role in fertiliser consumption. In years of drought and scarcely rainfed conditions, consumption of fertiliser is static. During the year 1987-88 when the country faced severe drought conditions the fertiliser consumption did not increase over the previous year (Table 3).

Types of soil, its fertility, percentage of area under cropping pattern and irrigation, intensity of cropping, topography, also have a significant bearing in the consumption of fertilisers.

Another factor which affects the fertiliser consumption is the ready availability of fertiliser within the reach of farmers. In this direction, Government of India has sanctioned the opening of 100 retail outlets in 143 districts covered under the Special Foodgain Production Programme and 243 districts outside the SFP Programme. Apart from this, 60 districts are also covered under National Project on Development of Fertilizer use in low consumption rainfed areas. The expenditure on this programme is shared between the Central Government, State Government and industry.

Another factor which affects fertiliser use is the area covered under the HYVs by different crops. It is a well known fact that the HYV programmes relies heavily on use of fertilisers alongwith the avilability of water.

Pricing policy of the produce also has some bearing on the fertiliser use. While fixing the price of different crops, it may be noted that the product price has built in incentive for the farmers to use fertilisers and the cost benefit ratio gives them enough return.

Promotional activities

With a view to enhance the fertiliser consumption in the country, the Government of India has taken a number of steps which, inter alia, include making available adequate supplies of fertilisers at a uniform price throughout the country with a network of retail outlets, intensive fertiliser promotion programme and other special efforts through various extension activities, including the training and visit system operating in majority of the States. Further, there is a network of soil testing laboratories in the country to advise farmers on the judicious use of fertilisers for achieving maximum economic returns on the basis of the soil tests.

In order to narrow down inter-regional, inter State/inter-District imbalances in fertiliser consumption an intensive fertiliser consumption campaign is being implemented in 104 selected districts in the country, where the immediate potential is in sight.

There were about 1.59 lakh fertiliser sale points in the country as on 1st March, 1986. In order to ensure speedy supply to different parts in the country including the remote areas, the States have been assigned targets for opening additional sale points. These sale points are expected to be opened mainly in dry farming, newly irrigated areas and hilly, backward and inaccessible areas.

For supplementing the use of chemical fertilisers with organic manures and biofertilisers, a number of efforts have been contemplated including the production of rural urban compost, coverage of area under green manures and promotion of bio-fertilisers The Government of India has attached considerable importance to the promotion of bio-fertilisers Under the National Project on Bio Fertiliser Development, 40 BlueGreen Algae Subcentres have been established for production of algae cultures through field multiplication programmes. To strengthen the activities of the National BioFeriliser Centre under National Project, the UNDP is expected to render assistance in the shape of providing equipment not produced indigenously, making available consultancy in the field of bio-fertiliser technology, training and arranging study tours with fellowship programmes outside the country.

Future Strategies

The foodgrain production target, and the fertilser needed for achieving the target for the years 1989-90, end of the Eighth Plan (1994-95) and by the turn of the century should be as follows:

It would be seen that in order to be fully prepared to meet the fertiliser requirement in the coming years, all out efforts shall have to be made to

Year	Foodgrain Target	Fertiliser Requirement
1989-90	175 million tonnes	12.5-13.0 M. tonnes
1994-95	200-205 M tonnes	16.5-17.0 M. tonnes
1999-2000	235-240 M. tonnes	20.0-22.5 M. tonnes

manufacture as far as possible the fertilisers in the country. Furthermore advanced planning should be made for importing the fertiliser to meet the shortfall of the desired type by adopting the network planning and management technique. Concerted efforts should be made not only to increase the consumption of fertiliser but also to narrow the inter-regional interdistrict variation in consumption and by narrowing the ratio of N P:K to a level of 4:2 :1

The soil fertility status of the country should be monitored and necessary policy decisions should be made to see that soil health be ensured for achieving the maximum response from per unit of fertiliser application.

Due to the introduction of High Yielding Varieties and intensive cropping, micronutrient deficiencies have been observed. Promotional programmes to promote micronutrient (s) application based on soil testing and cropping pattern should be undertaken on priority basis but it must be ensured that it has a full research backup

There exists large potential in rainfed areas for increasing agricultural production with the use of fertiliser. Therefore, massive national efforts should be launched for promotion of fertiliser use in rainfed areas The soils of the dry land area are not only thirsty but hungry too Time and method of application of fertiliser should be well chalked out depending upon the characteristic of plant and weather conditions of the areas

Concerted efforts have to be made by the soil scientists and extension workers to see that the package of practices on integrated nutrient supply system are made available to the farming community of various micro-agro-climatic zones for various cropping system which should be based on production function model at different levels of input output units

Since large tracts of our country have acid soils the use of indigenous rock phsophate in conjunction with water soluable phosphate in a proportion of 50:50 should be encouraged.

Method and time of application of fertiliser for various cropping system should be worked in a systematic manner and the most effective type of the fertiliser should be indicated.

Wherever possible the fertiliser use and efficiency should be enhanced by synchronising the growth of plant through an application by soil and foliar application depending upon the rainfall pattern and soil moisture indices.

Credit to the farmers may be provided well in

time so as to enable the farmers to purchase fertiliser in adequate quantity well before sowing time.

Primary cooperative societies which have direct link with the farmers should be strengthened and should be encouraged to stock fertilisers in advance and to make it available to the farmers in time.

Adequate infrastructure by manufacturers at the grass root level, including the retail outlets would help in increasing fertiliser consumption.

Though the country is becoming self sufficient in the production of nitrogen, still we have to import certain quantities of nitrogen as well as bulk of phosphate and potash materials which should be well planned in a systematic manner for a period of 10 years. The modernisations of the fertiliser units is a must so as to reduce the cost and also see that minimum subsidy is required. It is better to grant tax relief and other concessions at source rather than giving subsidy at the distribution/sale point (s).

All out effort should be made to see that farmers are not cheated and they are given the well-balanced fertiliser of the desired quality at reasonable cost. Thus the State Governments should strengthen the machinery involved in monitoring the quality of fertiliser supplied by various agencies, dealers and organisations.

From time to time a high powered Committee should be appointed by the Government of India to study all the gamuts of fertiliser research, production, distribution creait support etc. of various agro-climatic zones of the country.

Time has come when we should consider establishing a Central Institute on Fertiliser Science, Technology and Transfer of Technology which should serve as a custodian of knowledge, guidance and technical support. This Centre should conduct and coordinate research on all crops, cereals, pulses, oilseeds, vegetables, ornamental (floriculture), horticulture, plantation, forest plants and others. It would be the mandate of this Institute to formulate fertiliser for various agro-climatic zones of the country. Through a systematic approach and by taking advantage of the research work done in the country, a system analysis would be done and the informatic unit with the help of computer would reduce the information for each Block/Village of the country.

Future of agriculture in India is dependent upon replenishing the plant nutrient to the impoverished soil by adopting the integrated, well-balanced, adequate and timely application approach, which would result in enhancing the fertiliser use and efficiency in various agro-climatic zones of the country. ☐☐☐

Self-reliance in fertiliser production

Pratap Narayan

In this article the author traces the growth of fertiliser production and its consumption from the 20s to the 80s. Although our basic objectives of matching fertiliser production with the growing agricultural requirements have been achieved, the challenges of projected requirements vis-a-vis foodgrains production and population growth in the 90s and beyond call for sustained efforts to maintain the production tempo so that we are not deprived of the self-reliance already achieved in this sector.

THE CRITICAL ROLE OF FERTILISER IN DEVELOPMENT to Indian agriculture was recognised way back in 1924 in the Report of the Royal Commission on Agriculture. However, its use on a significant scale had to wait for a long period until acute food shortages in the wake of the 1943 Bengal famine and partition of Indian sub-continent in 1947, drove home the need for planned and rapid growth of Indian agriculture based on use of modern inputs and improved methods of farming. This was given concrete shape in the successive five year plans laying prime thrust on accelerated growth of agriculture. Within the framework of the technology and agronomic practices existing then, increase in area under cultivation provided an immediate answer to the need of growing foodgrain production in the country. However, this approach had its own limitations particularly considering the fact of land mass being limited on the one hand, and growing population pressure on the other.

Critical breakthrough

Beginning with the 3rd five year Plan i.e. 1961-62 to 1965-66, efforts were already under way to bring about increase in productivity of agricultural land. The overriding thrust of research pioneered by the Indian Council of Agricultural Research (ICAR) and its affiliated research institutions, was to develop high yielding variety seeds (HYVs) as the conventional varieties were not able to convert precious nutrients including quantities supplied through chemical fertilisers into grains. In fact, much of it was transformed into vegetation. The dwarf variety of high yielding seeds of wheat imported from Mexico in the early sixties and dedicated experimentation by the scientists in Indian conditions, triggered off what is now commonly known as the Green Revolution in Indian agriculture. Adoption of the HYVs on a large scale in an environment of adequate moisture availability led to an unprecedented spurt in the demand for fertilisers. Government's attention shifted mainly to evolving policies and programmes directed towards increasing use of fertilisers which had come to be recognised as the sine-que-non of Green Revolution in India.

The Sivaraman Committee (1964) recommended increase in domestic production of fertilisers, its efficient distribution and promotion besides emphasising increasing use of irrigation, HYVs, credit and adequate availability of other complimentary inputs. During the sixties, there was substantial investment in creating domestic production capacity in both the public and the private sectors. Between 1960-61 to 1970-71, nitrogen capacity increased from 0.5 to 1.5 million tonnes while that of phosphates went up from 0.1 to 0.5 million tonnes. To promote efficient distribution, fertiliser marketing was liberalised in 1966, from a situation of distribution entirely by state agencies including cooperatives, to manufacturers also selling a part of production through their own marketing channels. By 1969, producers had the freedom to sell their entire production. This not only fostered competitive marketing, but also led to development of infrastructure in terms of warehousing, handling, dealer network and promotion. Above all, fertiliser prices to the farmers were maintained at reasonable and stable levels through direct control by the Government.

Production profile

The feedstock and technological choices were appropriately adjusted to bring about rapid increase in domestic production capabilities. In the sixties, naphtha was a profitable proposition and con-

sequently, it was the preferred feedstock in a number of nitrogenous fertiliser plants commissioned mainly in the private sector. During the seventies, in the wake of oil crisis attention shifted to coal on the one hand, and minimising outgo of foreign exchange on the other. The seventies witnessed steady increase in fertiliser installed capacity and production with the former increasing to 4.6 and 1.3 million tonnes for nitrogen and phosphate respectively in 1980-81 During the eighties, both the installed capacity and production took quantum jump. Between 1980-81 and 1988-89, the installed capacity in nitrogen increased from 4 6 to 8.2 million tonnes, an increase of about 78 per cent. In phosphates, the estimated capacity in 1988-89 at 2 7 million tonnes is almost double the level in 1980-81. N production between 1980-81 and 1987-88 increased to 2½ times reaching a record level of 5.5 million tonnes During the current year, i.e 1988-89, it is expected to touch the 6 4 million tonnes mark. In phosphate also, increase in production has been phenomenal

Increasing efficiency

A redeeming feature of the emerging scenario has been consistent improvement in the capacity utilisation rates both in the nitrogen and phosphate sectors In nitrogen, the all India average increased from 53 per cent in 1980-81 to 78 per cent in 1987-88 and as per current indications, it is likely to be still higher at 82 per cent during the current year i.e. 1988-89 In phosphates, the improvements have been equally impressive as the average capacity utilisation rate went up from 65 per cent in 1980-81 to 81 per cent during 1986-87 and is slated to be still higher at 89 per cent during 1988-89. The comparatively lower performance at 70 per cent during 1987-88 was entirely the result of certain exogenous factors and in particular, non-availability of imported phosphoric acid for three months arising out of delays in negotiations for supplies The efficiency improvement aspect has embraced an increasingly large segment of the fertiliser industry in India In nitrogen for instance, the number of plants working at above 80 per cent utilisation rate increased from 5 in 1980-81 to 18 in 1987-88 In phosphates also, similar improvement is discernible.

With an installed cpacity of 8.2 million tonnes N and 2.7 million tonnes P (estimates for 1988-89) and a corresponding production capability of 8.7 million tonnes (6.4 N and 2.3 P), India has the distinction of being the 4th & 5th largest producer of N and P respectively in the world.

The rapid increase in domestic production has contributed to growing consumption from 0.3 million tonnes of nutrients (NPK) to 5.5 million tonnes in 1980-81 and nearly 9 million tonnes in 1987-88 (estimate). ıe current year i.e. 1988-89 is expected to end up ith a total fertiliser use of about 10 7 million tonnes utrients). The increasing self-reliance in fertiliser ailability is amply confirmed by consistent crease in the share of production to consumption om 52 per cent in 1970-71, 61 per cent in 1980-81 and further to 90 per cent in 1986-87. During 1987-88, it will still be higher at 92 per cent. K requirements being met entirely from imports due to absence of raw material base supporting domestic production has been excluded while gauging the extent of self-sufficiency in fertilisers.

To-wards self-reliance

The above has been made possible predominantly because of India constantly pursuing the policy of increasing self-reliance in the fertiliser sector. The essence of this has been clearly laid down in the 6th and 7th Five Year Plan documents. In the nitrogen sector, the policy prescribes maximum degree of self-sufficiency in fertilisers, based on utilisation of our own raw materials including feedsstock, leaving only marginal quantities to be made up through imports. In phosphates, however, the domestic raw material constraints do not permit near total self-sufficiency in production. Recognising this, the Government has adopted a conscious policy mix involving domestic production based on indigenous rock phosphates and imported rock phosphate and sulphur, production based on imported intermediates i.e. ammonia and phosphoric acid and import of DAP in the third option. Through the first two alternatives, the intention has been to achieve nearly 75 per cent self-sufficiency in phosphatic fertilisers which not only prevents too much of exposure to the uncertainties of the international market, but also, helps in utilising to the extent possible, our own resources besides contributing to industrial development and employment generation etc. Also, considering exclusive Indian dependence on imports of sulphur as also the anticipated tight supply of this crucial raw material, efforts are being made to utilise available resources of pyrites and a project with a total capacity of 33,000 tonnes P205 per annum is already coming up at Amjhore, Bihar. Based on its experience, it is proposed to take up a similar project in Rajasthan using pyrites deposits in Saladipura mines.

The objectives of increasing and consolidating on self-reliance in fertiliser availability have been more than fulfilled. Amongst others, this has been the result of appropriate policies and administrative arrangements in the field of pricing, marketing, distribution and promotion etc. The pricing policy adopted during the last more than a decade or so, has essentially two vital sides each catering to assigned national objectives. On the one hand, maintaining consumer price at a low level through statutory control under the FCO, has helped in increasing fertiliser use by making this vital input affordable to the farmers. On the other, a reasonable cost of production (including a margin of profit) subject to prescribed efficiency norms allowed to the producer under retention price scheme ensured the health and growth of the industry. The fertiliser supply and distribution arrangements under the aegis of the ECA allocation system run by the GOI backed by adequate infrastructure in terms of transportation, handling,

(Contd. on page 34)

Faltering profitability in fertiliser industry

Dr. A.Q. Khan and Mohd. Tufail Khan

The article is a critical analysis of the numerous constraints retarding profitability in the fertiliser industry. Deploring the uneven trend. in the industry which the author attributes to power shortage, faulty equipments and rising cost coupled with the pricing policy, the author suggests positive remedial measures to overcome these constraints.

THE INDIAN FERTILISER INDUSTRY STANDS fourth in rank in the world not only in terms of production, but also in terms of consumption of nitrogeneous and phosphatic nutrients The size of Indian fertiliser industry is next to those of U.S.S.R., U S A and China But unfortunately the performance of this industry has been quite eventful in the recent years The declining and uneven profitability has been a matter of great concern over the years. The factors crippling the profitability of this industry are attributed to power shortage, faulty equipment design and rising cost coupled with the pricing policy The paper makes an attempt to critically examine numerous constraints retarding profitability Suitable remedial measures have also been given to overcome these constraints

Uneven trend

Table 1 presents a profile of corporate performance during 1980-81 to 1985-86

It is evident from table 1 that in 1980-81 the turnover of twelve compaines stood at Rs. 605 1 crores The gross profit before depreciation and interest charges claimed at Rs 101 7 crores and the

Table 1

Profitability profile *

No. of Companies Studies	(12) 1980-81	(5) 1981-82	(5) 1982-83	(9) 1983-84	(9) 1984-85	(9) 1985-86
1 Net Sales	605 12	445 72	502 84	574 91	790 57	853 63
2 Gross Profit	101 68	40 69	59 57	115 40	162 29	176 88
3 Gross Profit as % of Sales	16 8	9 13	11 8	20 1	20 5	20 7
4 Depreciation	32 18	15 00	14 00	46 46	60 73	69 11
5 Interest	25 29	12 22	16 54	54 48	51 26	53 93
6 Profit Before Tax	552 37	17 25	37 42	19 73	65 47	50.51
7 Tax	26 31	3 35	4 67	5 12	6 52	7 23
8 Tax as % of Profit Before Tax	50 2	19 4	12 4	26	9 10	14 3
9 Dividends	10 32	4 80	8 66	4 30	14 59	19.00
10 Retained Profits	15 74	9 10	24 09	10 31	44 36	24 28
11 Profit After Tax	26 06	13 90	32 75	14 61	58 95	43 28
12 Networth	167 92	151 89	75 08	187 75	232 70	276 30
13. Gross Fixed Assets	—	—	—	670 18	717 63	793.06
14 Profit after tax as % of Net worth	15 5	9 2	43 6	7 8	25.3	15 7

* Based on a study done by Reserve Bank of India
Source Kothari's Year Book on Business and Industry, 1988

net profit was Rs. 26.06 crores—15.5 per cent of the networth i.e. 167.9 crores. In 1981-82 the turnover of five companies was Rs. 445.7 crores with the gross profit before depreciation and interest charges of Rs. 40.7 crores. The net profit was Rs. 13.9 crores– 9.2% of the networth of Rs. 151.89 crores The turnover of the same number of companies in 1982-83 stood at Rs. 508.84 crores with the gross profit of Rs. 59.97 crores. The net profit was Rs. 32.75 crores which was at a higher proportion i.e. 43.6% of a networth of Rs. 75.08 crores.

The table further reveals that in 1983-84, the turnover of nine compaines stood at Rs. 574.91 crores which rose to Rs. 790. 57 crores i.e. (37.5%) in 1984-85, and further to Rs. 853.63 crores i.e. 48.5 per cent in 1985-86. In 1983-84 the gross profit before depreciation and interest charges claimed at Rs. 115.4 crores which increased upto Rs 162.29 crores in 1984-85 and further to Rs 176.88 crores in 1985-86 i.e. by 40.6 per cent and 53.3 per cent respectively. The profit after tax worked out to be Rs. 14 61 crores in 1983-84 which went up to Rs. 58.95 crores in 1984-85—a rise of 303 per cent, but in 1985-86, the profit was not good enough as it declined to Rs. 43.28 crores. The profit after tax was 7.8 per cent of the net worth in 1983-84 while in 1984-85 it was 25.3 per cent of the networth of Rs. 232.70 crores. It, however, declined to 15.7 per cent in 1985-86 while the turnover and gross profit of these units were increasing. It is clear from the foregoing analysis that the working of the fertilizer units has been uneven The overall working of the Industry depends on the performance of individual units and their ability to achieve a high level of production and sales. The changes in the ratio of gross profit to net sales and in the ratios of profit aftex tax to networth in the above mentioned analysis distinctly indicates that the industry functioned in a straight jacket and profitability was highly faltering and dependent on the achievement of high operating ratios.

The causes

The working of the Industry has been adversely affected because of heavy interest and depreciation charges. The cost is also inflated in certain cases with the imposition of higher import duties and the increase in the cost of imported equipments. This is because of a decline in the parity of the Rupee against important foreign currencies.

The profitability of the fertilizer industry has been affected by faulty equipment design, power shortage, experiments with new technologies and the like. Some of the public sector companies accumulated heavy losses which were difficult to be fully off-set by the better functioning of other public sector units. Upward adjustments in administered prices for petroleum feedstocks and the rising cost of other inputs have also affected the fortunes of individual units. The heavy capital outlay on new units have a complicating effect after the gas-based fertilizer plants came into operation in some states.

One of the major constraints of low profitability in fertilizer industry is depressed demand for fertilizers in the last couple of years on account of drought conditions and building up of heavy inventory. The pricing of fertilizers is very unrealistic. As a result, even the modern gas based fertilizers, which have a high operating ratio, may not be in a position to market their output because of unreasonable return on investment. The formula for calcutating retention prices on a post tax return of 12 per cent on networth of the compaines concerned, is only advantageous to the efficient units which have higher operating ratios.

The manufacturing cost has unduly inflated on account of imposition of levy on imports, excise duties on plant and machinery and unrealistic pricing of feed stock. There can be a reduction to a reasonable extent in these prices with adjustments in indirect taxes and prices of feedstock. However, a reduction in the expenditure on subsidies may be offset to a great extent by a decline in yield from indirect taxes and lower generation of internal resources of the agencies making available petroleum feed stock.

The mismatch between the consumption and demand pattern of the fertilizer has forced the government to undertake a renewed step to revitalise its demand by bringing about revival in agricultural growth within the climatic and geographical setup of the country. As a matter of fact, this particular task entails multi-disciplinary and, multi-model approach. The operational area of this industry is, indeed, wider. The concerned government and the industry alone shoulders the onerous responsibility of deciding fertilizer policies, which at times become very difficult to cope with formulation of policy on all the matters concerned. In this regard, it is felt that other government departmental agencies such as water resources and irrigation departments, ware housing corporations and seed corporations should come farword and give valuable advice from time to time on such matters which fall under their arena.

A uniform price pattern

It is now high time that the fertilizer industry should make an endeavour to effect sales of different nutrients at a uniform price throughout the country. Those with real prices higher than their retention prices should credit the difference in proceeds to the equalisation fund. Alternatively, the units will be paid out of the equalisation fund the difference in individual retention price and pool price, if the former happens to be greater than the latter.

The difficulties arising out of a low level of networth can be removed in two ways, firstly to include borrowed funds with the capital employed and secondly to invite more equity capital from outside. But this can be possible only if the higher dividend will be paid. The Government should also raise the rate of return on networth following the increase in interest rates in various directions. □□

IRDP in Bihar—remove shortcomings

Rama Shankar Singh

The author here analyses the process of implementation of IRDP in Bihar and notes that inspite of creditable performance there are many shortcomings which ought to be removed. Enumerating these, he urges various government and financing agencies to take necessary steps like prevention of wrong identification of beneficiaries, prevention of over or under-financing, involvement of Panchayati Raj institutions in IRDP operations etc. so that the programme could be implemented in Bihar more effectively.

THE INTEGRATED RURAL DEVELOPMENT PROGRAMME (IRDP) was launched in Bihar in 1978-79 in few selected blocks which was further extended to all the blocks in the State from October 2, 1980 Its prime thrust area initially has been to lift the rural poor (belonging to the target group consisting of small and marginal farmers, share croppers, landless labourers, rural artisans, the members of scheduled caste and scheduled tribes and rural women who have no access to the development inputs such as technical know-how, raw-material, equipment, training, marketing and credit) above the poverty line and to stabilise them by providing the key inputs viz. credit to acquire productive and income generating assets. Such credits tied with subsidies are to soften the credit burden and also to motivate them to avail themselves of institutional credit with a clear end usage of higher production, productivity and income.

System

Through this system of credit subsidy mix, assets are created for the poor households The subsidy component in the total financial package ranges between 25 and 50 per cent to the various categories of borrowers. The criterion for the selection of a borrower is that his income should be less than Rs. 6400 per annum. The poor are further classified into (i) destitutes (with an annual income of less than Rs. 2265, (ii) very very poor (Rs 2266-Rs 3500); (iii) very poor (Rs 350/- Rs. 5000) and (iv) Poor (Rs. 5001-Rs. 6400). About six hundred beneficiaries are identified by trained personnel in a cluster of ten villages in a block every year, out of which 212 are to be new beneficiaries and the rest are old beneficiaries who are eligible for a second dose of subsidy which in turn should not exceed Rs. 3000. Among the four categories of poor the destitutes are given preference. According to the policy on the assistance to be given under the scheme 50 per cent of the beneficiaries are given assistance for industry. service and business (ISB) and the remaining 50 per cent are given in dairying and other allied agricultural activities. The beneficiaries, thus identified, are scrutinised by a task force comprising officials of State Government, concerned commercial banks and local public men.

Application

The beneficiaries then apply for the subsidy linked credit with the documents required to the block development officer who in turn, forwards the applications to the bank with the recommendations The subsidy is released simultaneously. The banker who verifies the application is expected to go for spot verification and ensure that the asset is created and credited.

The total credit and subsidy disbursed during the sixth plan in the country reveals that an investment of Rs. 4762 78 crores was made against the target fixed for Rs. 4500 crores. The number of beneficiaries also touched 165.62 lakhs against the target of 150 lakhs. In investment the target was exceeded by 5.83 per cent and the number of beneficiaries by 10.43 per cent. The proportion of subsidy in total investment was computed to be 35.88 per cent and the per capita subsidy worked out at Rs. 1803 Of the total beneficiaries, the SC/ST alone constituted 39 per cent. Quantumwise, thus, the progress under this Programme was found to be satisfactory and this has been endorsed by the findings of the various evaluation studies conducted by NABARD, the RBI the NIRD and others.

Creditable performance

If we compare the national figures with those of Bihar, the State's performance would also appear to be creditable. The total credit and subsidy disbursed

during the four years (1981-82 to 1984-85) of the sixth Plan (figures for 1980-81 are not available) reveals that an investment of Rs. 426.71 crores. i.e. 8.95 per cent of national investment, was made. The number of beneficiaries touched 16.70 lakhs as against the target of 14.08 lakhs In percentage terms, it amounted to 118.60 per cent. The proportion of subsidy in the total investment stood at 35.05 per cent and the proportion of SC/ST beneficiaries constituted 42.23 per cent. However, the per capita subsidy fell below half of the national average to Rs. 896 and that too has fluctuated over the years.

If we leave aside this comparison and restrict ourselves solely to the official statistics regarding progress of IRDP in Bihar both during the sixth and the seventh plan years, as has been shown below in Table 1, the State's performance would not only appear to be significantly creditable but at the same time improving too but not necessarily meaning thereby that all is well with this programme in Bihar.

The above achievements in a State like Bihar appear to be quite significant. It may not be out of place to mention here the findings of the national sample survey and other evaluations made on the subject of poverty in the country which indicate that though the percentage of poeple below the poverty line in Bihar is higher than the national average it is consistently going down. However, various evaluation results differ on the degree or extent of decrease in poverty. The figures from the NSS indicate that there has been a reduction in the level of rural peverty in Bihar by six per cent during the period of sixth plan. The latest indications are that 50 per cent of the people assisted by IRDP in Bihar have crossed the poverty line. However, a significant feature of the poverty shown in different studies is that though the percentage of rural population below the poverty line has decreased, this achievement has been nullified by the rising population resulting in the absolute number of those below the poverty line remaining almost static.

The concurrent evaluation conducted by the Government of India during 1985-86 indicates that the percentage of IRDP beneficiaries on crossing the poverty line-Rs. 3500 for India was 46 whereas for Bihar it was 52. Similarly the percentage of IRDP beneficiaries crossing the income range of Rs. 6400 for India was 11 whereas for Bihar it was 13. It is expected that by the end of the seventh Plan the percentage of rural population below the poverty line will go down to 28 per cent for the country and to 40 per cent for Bihar. At the end of the eighth Plan, at current trends, the percentage of people below the poverty line in the country will be 10 whereas that of the people remaining poor in Bihar will be 20.

Deficiencies

Inspite of the above statistical evidences, a number of deficiencies were observed in the evaluation studies by the NABARD and the Union Government research institutes. The important deficiencies

Table 1
IRDP in Bihar

	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88
1 Physical Target	352200	352200	352200	352200	310000	460000	536427
2 Physical achievements	276169	362354	430145	601837	421135	535155	657334
3 Percentage of achievement	78 4	102 9	122 1	170.9	135 9	116 3	122 54
4 No of SC/ST beneficiaries	102380	135374	175924	259068	165900	223099	277663
5 Percentage of SC/ST beneficiaries to total beneficiaries	37 1	37 4	40 9	43 0	39 4	41 7	42 24
6 Women beneficiaries	—	—	—	—	23288	53418	90463
7 Percentage of women beneficiaries to tatal beneficiaries	—	—	—	—	5 5	10.0	13 0
8 Financial allocation of the State (In Rs lakhs)	3133 68	3399 60	3889.08	5621 68	4954 45	7683 99	10117 0
10 Percentage of utilisation	89 0	72 4	82.8	119 7	100 1	108 3	120 29
11 Amount spent on subsidy (in Rs lakhs)	3025.00	3238 21	3504 78	5191 82	4407 92	6829 63	9012 46
12 Per capita subsidy (In Rs)	1095	894	815	863	1047	1276	1371
13. Per capita credit (In Rs)	1308	1797	1667	1782	2311	2655	2744
14 Per capita investment (In Rs)	2403	2691	2482	2645	3358	3931	4115
15 Total credit dispensed by banks (In Rs lakhs)	6611 35	6511 24	7188 84	9315 69	9730.47	21038 22	18034 9

Source : Department of Rural Development, Government of Bihar, Patna.

which require the attention of both responsible for decision making and implementing them are enumerated below:

1. The identification of the beneficiaries is done in selected pockets instead of the entire village within the block after making a complete survey of the eligible beneficiaries.
2. The selection of productive assets was made with out taking into account the skill and aptitude of the beneficiaries and no training was imparted to the beneficiaries for proper maintenance and utilisation of the asset.
3. The loan applications were not properly scrutinised and there was heavy bunching of the loan applications particularly in the last quarter of the financial year.
4. The infrastructural facilities needed for the development of activities like dairy, poultry, goatery etc. were not available. For instance, for the development of milch cattle insemination centres, veterinary dispensaries and marketing facilities, were not available.
5. Banks were not involved in the identification process either of the beneficiaries or of the projects.
6 Cases of inadequate or underfinancing of assets were observed in many cases with the result that assets of inferior quality were acquired by the beneficiaries
7. The bank insisted upon two personal guarantors in addition to the hypothecation of the assets financed even in those cases where the loan assistance was of less than Rs 5000. This was against the instruction of the RBI.
8. There were no adequate number of the field staff with the banks to undertake post sanction follow up and supervision of loans with the result that the end use of the loaned amounts was not properly watched.
9. Delay occurred at the level of the development blocks and banks in providing the actual assistance to the beneficiaries. For instance, as against the national average of 29 days delay at the block level, the delay in Bihar was of 35 days. Similarly the delay at the bank level was 85 days as against the national average of 66 days.
10. About 31 per cent of the beneficiaries did not receive working capital assistance even though they required it.
11. About 25 per cent of the beneficiaries did not receive the financial assistance which was sufficient to acquire the assets proposed by them.
12. Seventy-nine per cent of the beneficiaries did not receive after care and support from the government agencies.
13. The overdues under IRDP loans constituted 74 per cent of the demand in Bihar as against national average of 57. This position was alarming and required effective measures to be taken for bringing back the overdues.
14. The repayment period had been fixed for a period of less than three years in about 31 per cent of the projects financed by the banks and about 27 per cent of the cases of overdues were due to tight repayment schedule.
15. In about 30 per cent cases, the assets financed by the banks were not found intact.
16. The demand for milch cattle was disproportionate to their availability. Most of the cattle financed were of poor quality with the result that the income of the borrower was not adequate to repay the bank loan.

These deficiencies indicate that the programme was not planned and implemented well in Bihar Various evaluations indicate that both at the block and district levels, the administrative dimensions of the planning and implementation of the programme and coordination have not extended fully the fruits of the programme to the poorest rural population and the rural elite, with the help of *benami* transfer of land assets in the names of others, declare themselves as poor to get assistance under the programme. However, it is encouraging to note that the programme has resulted in creating a positive impact on generating employment and increasing the income of poorest sections of society. Nevertheless, the crux of the programme is reflected in its planning and implementation process and coordination instead of its potential for employment and income generation.

It is, therefore, urgently necessary that various governmental agencies and the financing banks take necessary steps so that the real purpose of the IRDP may be achieved. Inspite of so many deficiencies, it may by observed, the beneficiaries of the IRDP were mostly poor, illiterate and highly unorganised. As the emphasis under IRDP is not on providing just some kind of assistance and achieving the target of an impressive number of beneficiaries but on providing substantial assistance to the identified participants which should increase their income to a significant extent so that they cross once and for all the poverty line, they also deserved day to day guidance and motivation from the extension agencies and the financing banks. As such, policy flow out of this study emerges as under :

(1) To prevent wrong identification, presence of middlemen and leakages,
   (a) instead of identifying the beneficiaries every year in a cluster of 10 villages, a complete list of beneficiaries in the block may be prepared, priority fixed and the list of beneficiaries for each year publised at the block; and
   (b) banks should be involved in identifying the beneficiaries which in turn, may strengthen the link between the bank and the block and increase the recovery rate.
2. Selection of productive assets be made after taking into full account the skill and aptitude

(Contd. on page 30)

How to make lease financing healthier

S.S. Agarwal

The author here traces the history of lease financing in India from its birth in the seventies till date and assesses the progress made so far in this sphere. In the process he speaks of some problems like inadequate resources and non-standardised accounting etc. in this new type of industry in India and suggests measures like minimum promoter's contribution, a separate finance window to be opened by IDBI and special fiscal initiatives by the Government to leasing companies in order to make lease financing healthier.

LEASE FINANCING, WHICH HAS BEEN A relatively new phenomenon, has become a major mode of corporate finance in the recent past. This is evidenced by the mushroom growth in the number of compaines that have entered the field of lease business especially in the last two years. In 1984 only, as many as 87 leasing compaines raised 49 1 crores from the market compared to 27 companies raising 15.7 crores in 1983. It is estimated that there are about 500 small and big lease companies in India at present, and many are still coming up.

It is predicted by financial experts that in coming years lease financing will become a main stream for financing the fixed assets. In the wake of dramatic changes in the complexion of industrial finance in India, with resources lurking large on the financial institutions and increasing rates of inflation; leasing has been gathering greater importance.

Concept

An arrangement by which a company can use and have control over assets without receiving title from term can be referred to as a 'Lease'. Actually, lease is a contractual agreement between the owner of an asset (the lessor) and its user (the lessee) giving right to the latter to the use of the asset for a specified period of time, in consideration of mutually agreed periodic payment (lease rental) to the former. In essence, leasing as a way of finance is an alternative to borrowings from commercial banks or financial-institutions, in many ways, to hire purchase.

Forms of leases

Depending upon the terms and conditions there can be four types of leases :—

(a) Operating lease
(b) Financial lease
(c) Sale and lease back and,
(d) Leveraged lease.

Operating lease is an open-end arrangement whereas financial lease is a close-end arrangement which cannot be terminated before the expiry of the specified period. This scheme is generally prefered where the equipment is subject to rapid obsolescence or the financing facility is to be availed of for a short period.

In sale and lease back arrangement, the lessee sells his own assets to the lessor and gets it back on lease. It is a system of enjoying the economic use of an asset without looking up funds in owning the same. In leveraged lease, a third party supplies funds in the form of equity capital or long term loans for the purchase of assets to be leased.

Growth

Leasing is not developing in India like it developed in the U.S.A. and U.K. through the marketing efforts of IBM, Xerox and such other giants. In U.K. the first company came into being in 1950s, and in U.S A. the first US leasing Corporation was incorprated in 1952. In India, it became a popular form of financing during eighties while the first company to undertaken lease financing was started in the 1973 and the next entrant arrived on the scene seven years later in 1980. Since then a large number of companies have come up following the success achieved by these pioneers.

It is growing more as a way of financing the purchase of industrial machinery and other expensive items. A number of public and private companies are offering lease finance at attractive terms. Even, leading financial institutions like ICICI, IFCI, IRCI and also

Commercial Banks have not restrained themselves from availing this opportunity. Hence for the first time, Indian industry has come across a new source of finance which provides funds quickly and without much time being spent in documentation and observance of formalities.

The following paragraphs highlight the theoretical underpinnings of lease financing and attempt to analyse the claims made by the propogators of lease financing :—

Cash flow effect

It does not disturb the cash flow of the lessee. Lease rental can be paid out of the additional cash generated from the asset use. Rental payments can be tailored to accomodate the cash flow position of the lessee A lessee, therefore can have better cash planning.

Debt-equity ratio

It also does not disturb the existing. debt-equity ratio of the firm even after availing of lease finance since, lease obligations are not reported as company's liabilities. Therefore, the firm can further raise the funds by borrowing if the exigency or the situation dictates Loan finance however, immediately reduces the potential borrowing capacity of the company, so that it is a more convenient source of finance for a firm under heavy debt.

Funds movement

Some protagonists for lease financing argue that leasing helps in liberating the funds of the lessee from fixed assets to the liquid or current assets. Since fixed assets have low turn-over compared to current assets, the movement of funds from fixed to liquid assets (like Inventories and Receivables) helps in improving the firm's overall profitability.

Tax-shield

Some of the advocates of lease financing hold the view that it saves the lessee from the commensurate taxbite. In comparison to outright purchase of equipment through borrowing finance, only the interest payment is permissible as revenue expenditure while in lease-financing the higher amount of lease rental is deductible as a revenue expenditure for tax purposes.

Therefore, leasing is said to be a painless way of working around the high taxation rates. But this arguement does not seem to hold since deduction like depreciation, investment allowances etc. are also allowed in the case of purchased assets.

However, with the enhanced rates of depreciation applicable from April' 87 the magnitude of tax benefits through lease financing has mitigated.

Risk of Obsolescence

Lease arrangement helps in shifting the risk of obsolescence of an equipment, which has more threatening consequences in an era of rapidly changing technologies. Today most of the customers try to avoid to make the capital investment i.e. they do not go in for it. Take the case of computers, Xerox machines, plain paper copiers and other commercial electronic equipment. Every year new models are introduced at less prices and in a Fathom of 2 to 5 years. Hence, leasing company (*less-or*) acts as an Insurance against the risk of technical obsolescence and under-utilisation of the assests. The lease might be for a day, a week, a month or a year in case of an operating lease.

Administrative hassles

Leasing is arquably, the easiest source of finanicing the fixed assets. Borrowing from commercial banks or finanical institutions requires a gamut of formalities, whilst lease financing meets the lessee's equipment needs immediately and to the extent required, it induces lessees to expand and/or to diversify and also spares resources to be used as working capital because they do not need to create any hypothecation or mortgage charges since the assets even after being leased out belong to the lessor only. Moreever, in contrast to borrowing finance where some margin money is necessary, leasing offers a 100% financing. Hence, it gives a great push to industrial development of the country.

Specialised expertise

Another important factor going in favour of lease financing is that lease financing is a saving in the overall expenses because the overheads, involved in case of companies are comparatively low Moreover, they are in a position to offer specialised advice to their clients in the area of asset selection. For the lessee the acquisition of the asset is a one-for all decision, whereas for the leasing company it is a matter of routine Consequently, it results in better selection

Problems

Leasing business is not without its cup of dangers or pitfalls. Though there is a tremendous potential, the leasing business has been afflicted by certain problems. These are :—

Inadquate resources

The authorised share capital of such companies is limited up to rupees one crore and in rare cases to rupees two crores. Increasing cost of projects involving use of latest technologies ranging from 5 to 20 crores in some cases, prohibits these companies to dream of financing any such project. Their only hope is, therefore, to find out and finance those projects which are within their financing capacity This precisely is the reason why a large number of leasing companies in India after their incorporation could not start any business. Their non-performance or bad performance due to insufficient capital could not generate sufficient confidence in the investors in leasing.

Non-standardised accounting

It is a fact that leasing companies have adopted a defectivé accounting system to show a rosy picture of their earnings. For want of standard guidelines on maintaining accounting dicipline either from corporate law or from the institute of Chartered Accountants of India, many leasing compaines have flexible norms which can be interpreted in their favour. First of all, there are no specific guidlines regardings bifurcation of *recept between principal account and interest account and consequently the income will be taken to profit and loss account arbitrarily.*

Secondly, since the cash system of accounting is not compulsory, for such leasing companies, they show the income on an accrual basis which might not have been received in cash. Thirdly, for want of specific guidelines regarding write-off of bad or doubtful debts, the profit is arrived at without considering bad accounts, it will go on showing more and more accrued income and, to that extent, it will affect its financial health, such a situation will ultimately lead to a fast declining of capital and reserves and the fall of the enterprise

Legal frame work

At present it is governed by the general business laws It is believed that not tax benefits (Income tax and Sles tax) have been extended to this industry so far. Depreciation on leased assets is allowed at rates provided under the income tax act, which are lower for the normal life of leased assets because of seperation of ownership from usage The benefit of investment allowance which though become non-debatable because of its abolition from the assessment year 1988-89. is also not availble on leased assets. No Sales tax benefits are available for leased assests. The leasing company is not permitted to issue 'C' form. With the insertion of section 32AB in the income tax act, which takes effect from 1st April, 1987 leasing compaines have been brough at par for tax deduction equal to 20% of profits, with other companies which was not there in case of investment allowance.

Lack of managerial talents

Today, the main problem of the leasing industry has got much to do with the nonavailability of desired managerial talent. Since leasing compaines are essentially investors and financiers, organisational and managerial problems of such companies can not be solved by traditional mamagement processes. While functional specialisations are of crucial importance, skills and expertise of a different order are called for especially due to credit risks and the necessaty of evaluating lease proposals in the light of resource potentials.

Lastly, clear cut government decisions are not available on certain issues like-availability of investment allowance to the lessor; non availability of concessional Central Sales Tax and the newly introduced Sales Tax by various States on the lease transactions have also affected the smooth growth of this industry.

Suggestio

Leasing industry in India is young and dynamic with good pospects for growth in future, keeping in mind the fact that barely 2% of the total industrial investment is so far financed through it compared to 20 to 25% lease financed investment in developed economies. It needs to be provided with special encouragement and adequate protection by having a separate legal frame work in the country. The measures so far adopted by the government for the regulation and control of leasing finance are no doubt welcome. But there is still much leeway to make up, for instance;

(a) Minimum promotor's contribution has been left undecided. Neither the lease hold equipment nor the liability there of, is reported in the annual reports of the lease compaines; as a result, there is a considerable scope for window dressing in respect of financial postition of such companies.

(b) IDBI should open a seperate refinance window for the commercial banks to offer refinance in respect of finance provided to leasing companies in case of transactions involving certain industrial machinery sold to small scale industrialists. This will be more encouraging for active participation of commercial banks in the financing of small scale sector through leasing.

(c) The Government should also extend special fiscal incentive to leasing companies which choose to finance firm equipment leasing.

(d) They should make adequate provision for future repairs and maintenance or any reserve for replacement due to obsolescence.

On the one hand, a plethora of leasing companies have inensified the stiff competition and therefore the undercutting of lease rentals, the entry of financial institutions and commercial banks on the scene is posing a great threat to the existing small companies. On the other hand only well managed and large, resourceful companies are going to see the better days; good profit ability ratios.

It is really surprising to note that in this inflationary era, the only downward trend noticed inrecent years has been in the lease rentals. With tremendous progress of leasing business, lease rentals have gone down considerably with the effect that in many equipments, the rate of technological obsolescence has gone up significantly So it is very necessary that they must have to fix the lease rentals in competetive market.

Conclusion

If the leasing industry is to grow and contribute significantly to the capital formation in the country, a

(Contd. on page 28)

Socio-economic uplift thro' telecom

B.B. Singh

The author here describes the importance and the need of telecommunication development for socio-economic development. He discusses the major challenges being faced by the developing countries in providing telecom facilities, expectations of the society and impact of this modern medium on economic growth. The author also describes the changing pattern of communication services and the need for updating the regulations.

ALL MODERN INDUSTRIALISED ECONOMIES are characterised by well developed telecom system. Today the telecommunication is considered as information system. The modern trend of information society has resulted in situations wherein the productivity of the units and the society as a whole depends upon the ability to interact and therefore, on the effectiveness of the telephone system. In the developing countries the priorities for investment were so far more for sectors like electricity, agriculture, industrialisation etc. But now telecommunication is recognised as an essential infrastructure for these developments and attention is being paid by the developing countries to allocate more resources for telecommunication because of its importance in socio-economic development.

Present status

In Asia and Pacific region countries, 18 countries are having only 0.6 telephone per hundred inhabitants. The reason for this is the under investment in telecommunication. The Asia-Pacific Telecommunication Development conference which was held during February, 1988 in India recognised the need for stepping up investment and to find out ways and means in this respect. It estimated that an investment of approximately 200 Billion US$ will be required to achieve the target of two telephone per hundred inhabitants in the 18 Asia and Pacific countries by the year 2000 AD.

The table below shows the level of penetration of telecommunication facilities in terms of number of telephone main lines per hundred inhabitants and telecommunication investment as a share of GDP for some selected developed and developing countries are to provide more resources for telecommunication.

Table

Position as on 31.3.1986

Country	*Telephone main lines per 100 inhabitants*	*Telecom Investment as a share of GDP*
Sweden	64.10	11.09
Canada	48.06	5.79
Australia	41 44	9.57
U.K	39.00	6.46
Italy	31.85	6.62
Portugal	14.79	7.36
Tunisia	2.90	6.53
Srilanka	0.57	3.63
India	0.42	3.96

The major challenges

(i) *Financial resource constraint.*

This is one of the major factors for the slow growth of telecommunication facilities to the users. Many countries have started allocating more share of revenue for telecom development but still due to fast changing environment in telecommunication, resource available is at the lower scale.

(ii) *Material resource constraint*

New Types of equipments are not available indigenously. One time import has been found not sufficient for proper growth. Continuous flow of material is required. It is possible only if the equipment is made available indigenously. Developing countries are making efforts to manufacture various items but still there is wide gap between demand and supply.

(iii) *Technological constraint*

Due to changing environment and introduction of various new services, developing countries cannot afford to discard their old equipment and modernise the services. A mixture of old and new equipment of different

varieties pose considerable problems in operation and maintenance in the network.

(iv) *Trained man-power constraint*

Trained manpower is not available to plan, engineer and and operate new networks and services in some countries.

Changing pattern

The telecommunication networks today are now more flexible, specialised kind of information system that provide transport, conversion and management functions for terminals, specialised network and applications in addition to traditional basic services. The intelligent networks are coming up offering various new services and facilities. New environment is being created which is largely based on computer information system concept and hardware demand by users for specialised services and other socio-economic considerations. This new environment is giving rise to new type of operating agencies and new categories of specialised customers away from the traditional telecommunication services. The data communication, telematic services, teleconference, intelligent network services etc. are the examples of changing pattern of telecommunication. Now the users are not willing to wait but forcing introduction of new technology into service as rapidly as possible.

Users expectations

The users expect efficient and reliable telecom service which should provide needed services and facilities. Business users expect that telecommunication should be an aid to operate their business efficiently and work as an infrastructure. They also expect to meet their special needs. However, the first choice of users may be a good quality of service. Still it may fall short of giving satisfaction to some users who might look for new and future services. The choice of the users is a factor determining the development of telecommunication. The amount of benefit offered by the telecommunication service is the satisfaction of the users. Users want continued interaction with service providers. Users also want competitiveness in service whether basic or value aided services. They also want liberalisation of rules and regulations for use of telecommunication so as to get ease in their day-to-day operations. The telecom service market if it is open gives much more satisfaction to the users compared to a limited choice. Users expectation is also for cost-benefit solution.

Value to Society

The telecommunication helps in improving the social life. It reduces distance, cost of travel, extends greetings provides entertainment, transfers messages, provides information, participates in social events, joins the communities etc. It is a link for development of social environment and extend great facilities and offers many services to society.

Economic development

The telecommunication as an infrastructure, as a business partner, as a government tool for administration, as a tool for office management, as a tool for transfer of information whether scientific, engineering, technological, social etc. provides services at a reasonable cost and assists in boosting up the development processes and helps in development of new processes. Its effect is manyfold in the modern society, few are mentioned as below:

(i) *Value aided network service*

With the help of telecommunication, general and specialised information is provided at a reasonable cost. Wide variety of services and facilities are available to both service providers as well as users. It enhances employment opportunity.

(ii) *Users' network*

The users' network is provided to cater to the exclusive need of particular company, organisation or group of users. The telecommunication administration provides such facility on lease or on licence basis. Such a network enhances the capability or the organisation which results into more profitability. It also reduces the cost and provides ease in operation.

(iii) *Business network*

The business networks are the specialised ones catering to the need for business and industry for their planning, production, marketing and sales, man-power management, etc. It is a business partner.

(iv) *Boost to trade*

The telecommunication system helps in the development of trade by way of providing special services to traders. It reduces time, distance, cost etc.

(v) *Technological impact*

Information about any new development in particular region can be immediately transferred to another region through data communication network or such other specialised network on real-time basis. Researches in any field can be known through conference facilities offered by the network (audio and visual)

(vi) *Service to Mass Media*

Telecommunication provides services to Radio, TV, Newspapers etc.

(vii) *New Services*

The new services such as telematic services facsimile, teletex and videotex, intelligent network service, data communication services, electronic mail, specialised service for hospital, education, agriculture, scientific and technological institutions, office management are being made available to the users.

(viii) *Hilly and remote area services*

Through the satellite communication it has been possible to provide service to hilly and remote areas and inaccessible places which otherwise are not accessible by ordinary means.

Effect on quality of life

The impact of telecommunication can be seen anywhere in the society and life style is changing and becoming more comfortable. Due to telecommunications one can see how efficient is railways on line reservation system, airlines on line reservation system, meteorological information and prediction, electronic banking, business, trade, government organisation, shopping, social contacts, education, mass media etc. The new and enhanced telecommunication services, have further added to comfort

Meeting the requirement

In India there is a wide gap between demand and provision of facilities. As on 31.3.1988, position of some of the major services are as below.

1.	Telephone Direct Exchange lines (DEL) working	- 3800986
2.	Telephone Waiting list	- 1287075
3.	Number of long distance Public Telephones.	- 23627
4.	No. of Telex Working lines	- 37464
5.	Telex Waiting list	- 3469
6.	Total no. of Telegraph Offices	- 37729
7.	Coaxial & Symmetrical cable route length	- 21085 Kms
8.	Microwave route length	- 27923 Kms
9.	Equipped capacity of long distance speech circuit ends	- 163261
10.	No. of Satellite Earth Station	
	(a) Departmental	- 33
	(b) Private	- 10

Considering large waiting list and future growth, the Department of Telecommunications has made perspective plan 2000 AD. The broad objectives of the proposed Perspective Plan are as follows:—

- Provision of 1.9 crore telephone connections to make telephone connection available on demand by the year 2000 AD.
- Phone in every village by 2000 AD (5.8 lakh pay phones).
- One million urban pay phones by 2000 AD.
- 1.2 lakh telegraph offices by the year 2000 AD.
- To grow telex network so as to provide telex connection on demand all through (about 1 35 lakh connection by 2000 AD).
- Establishment of Packet Switched Data Network to meet demand of business, trade and indsutry for telematic services.
- Reliable digital national toll network comprising optimum number of Automatic/Manual Trunk Exchange mesh connected with each other and encompassing all exchanges in the country.
- To increase staff productivity from 75 staff per 1000 connection in 1990 to 30 per 1000 connection by 2000 AD.
- For above an investment of Rs. 50,000 crore is envisaged.

In order to meet the requirement of bulk users, recently inter-ministerial empowered committee has been constituted which will receive projections of requirement of communication facilities for different bulk users for advising the department in regard to planning of mulit-user network. The committee will also examine the financial implications for sharing the cost of such facilities, its feasibility, coordination for optimum utilisations of scares resources and pooling of resources. It will also suggest new technology, if any, for advance network which is cost effective.

Updating the regulations

Users interest, changing communication services environment, growing interdependence of telecommunication and data communication and technological, operational and legal problems and operation of private and public network etc. requires up-dating the regulations. The World Adminisatrative Telegraph and Telephone Conference (WATTC) is going to meet shortly at Melbourne to establish appropriate regulatory provisions and structure needs for the future evolution of trans-border flows. This will consider international regulatory frame-work for all existing and foreseen new telecommunication service considering that new services have given rise to series of new problems relating to telecommunication. The outcome of this world conference will influence updating national regulations.

In India from time to time rules have been modified taking into account the user's need in the changing environment. Recently Department of Telecom has allowed customer's own terminal equipment such as telephone instruments, teleprinter, facsimile machines, data modems, EPABXs. The permission to operate private data network, private telephone network etc. is being given for one's own use. Permission for operation of wide band transmission system for individual organisation's use is also being given on merits. The manufacturing of telecommunication customer apparatus by private individual and companies and other telecommunication equipment by public sector units with public participation etc. are being permitted.

The potential

There is vast potential for telecommunication development and it has become essential to invest more in this sector. The usage of electronic media is changing the life style. The development of telecom will lower the cost of other commodities, increase profits, ease operations and many other diverse economic and social benefits. ☐ ☐ ☐

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mesure of standards, self decipline, code of conduct etc are absolutely necessary, It is expected that the formation of "The Equipment leasing Association" in India would contribute to the development of leasing business as a whole on health lines ☐☐☐

Cooperative Banking : growth and development

Arvind Kumar Mishra

This article presents a chronological account of the growth and development of cooperative banking in India since the idea was first conceived in 1892.

The Five Year Plans laid significant stress on the need for development of cooperative banking and as a result the post independence period has witnessed tremendous growth of cooperative banking in India, the author says.

IN OLDEN DAYS PEOPLE USED TO WORK together in large or small groups to attain social as well as economic objectives This was formulated into cooperation by veterans namely Rebertowen (Britain) and Charles Fourier (France) The co-operative movement saw the light of the in 1844 after the formation of "The Rochelze Society' in England Later on under the guidance of Schelze, F W, and Raiffeisen, F W , Co-operative Credit Societies were started in Germany which had been a model to the present day Co-operative Credit sector in the world

The idea of co-operative movement was first conceived in India by the then Madras Govt in 1892 Sir Frederick Nicholson was appointed in 1892 by Lord Wehlock to find ways and means for the constitution of agricultural Banks in the state. He suggested the Government 'Find Raiffeisen Society'. Further he advised that the establishment of rural credit agency should be on the postulates of proximity, security and provision of cheap credit to the Borrowers A precise conclusion was drawn based on the reports of Fredrick Nicholson and Duperhex that the co-operatives were worthy of every encouragement Taking this view into account and the Famine Commission (1901) recommendations, Devzil Ibbetson had moved and piloted a bill which was passed into an Act of (1904 in the Legistative Councl to meet the credit needs of the rural people. The Act was modelled largely on the English Friendly Societies Act. The Act of 1904 was the pioneer action in the co-operative credit movement in India. Later, the Act was found insufficient to meet the growing needs of co-operative credit To overcome the limitations of the Act, the Act of 1912 was passed. The new Act of 1912 gave a fresh impetus to the gorwth of co-operative movement The then Govt. took the measures under the Reform Act of 1919 to make the credit co-operative more effective for the furtherance of agriculture growth faster than the industry. Under the Reform Act, the transfer of co-operation to Provincial Government was the primary step. Henceforth the Provincial Governments were empowered to have their own Co-operative Society Act to make the path of credit movement smooth and sound This was another land mark in the history of co-operative movement

Pre-Independence progress

Different types of Co-operative Societies in the field of credit, supply, distribution, better farming, mortgage banking saw the light of the day during this period The progress of the movement could be judged from the fact that in 1945-46, there was one Co-operative Society for every 3 8 villages and about 10.6 percent population had been covered by this movement. There were 1 72 lacs Co-operative Societies with over 91 6 lacs members and 164.00 crores working capital in 1945-46

Post-independence period

The co-operative movement could not achieve much success before independence The Five-Year Plans have asigned a significant role to develp the co-oprative movement. Growth and development of co-operative movement during the Five-Year Plans is as under :—

Plans	*Finance (Rs in crore)*	*No. of Societies (in lacs)*	*No of members (in lacs)*	*Work-Capital in crores)*	*Population covered in %)*	*Village covered (in (%)*
First	6 16	2 40	7	469	15 6	70
Second	47 00	3 00	342	1312	24 0	75
Third	76 00	3 50	519	2800	38 0	90
Three-Annual Plan	64.00	3 26	601	4472	43 0	92
Fourth	178 00	3 30	685	6347	45 0	95
Fifth	423 00	3 36	651	8586	48 0	95
Sixth	914 23	3 40	712	10239	52.0	97

Source RBI & NABARD REPORTS

First-Five Year Plan

During the plan, co-operative societies and their

working capital increased by 32.25 percent and 70 percent respectively. The co-oprative structure covered 15.6 percent of rural population and 70 percent villages. The state Co-operative Banks increased from 15 to 20 The number of Central Land Mortagage Banks increased from 6 to 9 as if the Primary Land Mortgage Banks increased from 16 to 302 Due to consolidation of economically weaker Central Banks the number of Central Co-operative Banks decreased upto 478 from 505.

Second Five Year Plan

During the second plan Rs. 47 crores were expended in co-operative development programme The number of co-operative societies increased by 25 percent and working capital also increased from Rs 469 crore to Rs 1312 crores. During the plan period 75 percent villages and 24 percent of population were covered by co-operative credit structure State Co-operative Banks increased from 20 to 22, though Central Co-operative Banks decreased to 387 from 478 on account of the policy of "one central Bank for each district" Primary Land Mortagage Banks increased from 302 to 463 during the plan period

Third Five Year Plan

During the plan 90 percent villages and 38 percent of population were covered under co-operation Co-operative Societies and their working capital increased by 17 percent and 113 percent respectively In the end of the plan there were 346 Central Co-operative Banks, 18 Central/State Land Morstgage Banks and 673 Primary Land Mortage Banks

Three annual plans

On account of consolidation of economically weaker co-operative societies the number of co-operative societies decreased in this plan Working capital of co-operative societies increased by 59 percent. At the end of the plan, there were 25 State Co-operative Banks, 740 Primary Land Development (Mortgage) Banks and 341 (due to consolidation) Central Co-operative Banks, 92 percent villages and 43 percent of population were covered by co-operation upto end of the plan

Fourth Five Year Plan

During the period of the plan, the number of co-operative societies and their working capital increased by 4 25 per cent and 41 9 per cent respectively. Upto 1973-74, 95 percent villages and 45 percent population were covered by co-operation At the end of the plan there were 26 State Co-operative Banks and 341 Central Co-operative Banks

Fifth Five-Year Plan

In this plan Rs. 423 crores were expended which was 137 percent more than the previous plan (Fourth). In this plan co-operation covered 95 percent villages and 48 percent of population. At the end of the plan there were 27 State Co-operative Banks, 337 Central Co-operative Banks and 19 State Land Development Banks.

Sixth Five Year Plan

In this Plan, Rs. 914 23 crores were expended on co-operative sector 97 percent villages and 52 percent of population were covered by co-operation upto end of the plan Working capital of co-operative societies increased by 19.25 percent In the end of the plan there were 28 State Co-operative Banks with 351 branches, 19 Central/State Land Development Banks, 889 Primary Land Development Banks with 2262 branches and 1331 Primary Co-operative Banks.

Upto the end of the seventh Five-Year Plan 99 percent villages and 60 percent of population would be covered by the co-operative movement.

Thus, it can be concluded that the co-operative movement showed an increasing trend in terms of finance, number of societies, members, working capital and population covered during the plan period □□□

(Contd. from page 22)

of the beneficiaries, proper training facilities be imparted and infrastructural facilities must also be made available to the beneficiaries

3 To prevent over or under financing, the guidelines issued by the centre and RBI should be followed strictly and the block authorities and the banks should be asked to ensure that financial assistance in adequate quantity is made available to the right type of people and at the right time To ensure this and also to prevent misutilisation, some sort of deterrent punishment may be thought of,

4 District level planning machinery should be strengthened and asked to coordinate the work of various agencies like DRDA, block extension staff, the banks and others which should work as a team

5 *Panchayati Raj* institutions should be involved in IRDP operations effectively

6 Repayment period be extended and system for recycling of funds as an integral part of this programme be devised

7 Lastly, IRDP should be integrated with overall development plan in a block and the amount of credit and subsidy be raised keeping in view the price spiral and the requirements of the beneficiaries

The progress of IRDP in Bihar, thus, appears to be impressive, yet the problem of abysmal poverty in rural areas remains as intractable as ever If past experience is any guide in implementing the IRDP, all these deficiencies need to be eliminated immediately otherwise the pious objective and the achievements of IRDP in Bihar would remain on paper and this statistical success will not be able to erase the poverty line. □□□

Family Welfare programme calls for an integrated approach

Dr. P.N. Singh

Although family planning programme was officially started in India in 1952, socio-economic backwardness, poverty, lack of education and non-availability of health and welfare services within reach of the rural folk have stifled its progress. Socio-economic change through education, gainful employment and mass participation can help bring about a positive change towards successful implementation of the programme.

PLANNED PARENT-HOOD IS AN ESSENTIAL INPUT for development The welfare and prosperity of our country largely depend upon our success in controlling population growth To plan, when population growth is unchecked is like building a house where the ground is constantly flooded.

India stands second among the top ten countries of the world having the large population These countries contain 64 percent of world population Every seventh person in the world is an Indian We have 2.4 per cent of global habitat area and 15 percent of world population

Demographic Trends

The demographic trends in India are disquieting. According to 1981 census, we are 685 million and as of today about 800 million The annual growth in population is 13 to 14 million The child population is about 40 percent. The birth rate is 33.3 per thousand population. About 75 percent of birth in rural areas are attended by untrained medical practioner and traditional midwives One in three infant in India is born underweight and one in seven dies before the age of 5 years. About 2500 children in India dies of dehydration every day. Surveys have revealed that energy intake of rural low income group children is 30 percent below the recommended level. About 85 percent suffer from mal-nutrition. According to Government estimates nearly 30,000 children are becoming blind each year due to lack of vitamin A. The literacy rate according to 1981 census is 46.76 for males and 24.88 for females. Life expectancy is 55.1 and 54.3 for males and females respectively.

Family Welfare Programme

India was the first country in the world to have started an official family planning programme in 1952. In the beginning 'clinic' approach was adopted. Finally 'cafteria' approach was adopted with the intention of providing services in respect of as many family planning methods as possible, so that couples can choose any method of their liking. Sterlisation was introduced in the family planning programme in 1956. Later on medical termination of pregnancy was also legalised

In the last four decades since independence three phases can be identified. The first phase was of improving the infrastructure of family planning services. The second phase was of integration of different health and family welfare services. The last phase is an attempt for involvement of community and universal coverage At the end of four decades in India there is now a wide-spread infrastructure and a growing awareness for family welfare services.

The national population policy envisages as its long term goal a reduction in net reproduction rate to unity by the end of the century for the country as a whole. This is attainable if the birth rate drops to 21 per thousand and death rate to 9 per thousands and by covering some 60 per cent of couples in the reproductive age group by one or the other contraceptive methods by the end of the century.

The birth rate has declined from 41.2 per thousand in sixties to 33.3 per thousand in eighties and mortality rate from 27.4 to 14.2 Thus we have a long way to cover The present facilities of family welfare services, particularly in rural areas are inadequate both in relation to targets and actual needs. The present provision of auxiliary nurse midwives (ANMS) at the rate of one for 5,000 can effectively cover only one-third of eligible couple.

Secondly, in rural areas there are lack of com-

munication and motivational efforts as well as easy availability of personnel and medical supplies. The use of midwives (Dais) among the programme personnel after proper training and motivation would strengthen delivery system. We have already a scheme of Aganwari where workers of child Development Service Scheme which is operating in 600 rural and tribal blocks may be oriented to this task.

Thirdly, about 40 percent of the rural people are living bleow the poverty line and have not reached the economic threshold which is essential for adoption of small family norm. Literacy rate is also very low particularly among women.

Thus the socio-economic backwardness, poverty, lack of education and non-availability of health and welfare services within the reach of the rural folk, and lack of communication-all have led to the limited success of the family welfare programme.

It is necessary to improve communication, and co-ordination between functionaries of various developmental agencies functioning in rural areas Another aspect which needs attention is sustained monitoring, supervisory guidance and evaluation of constraints to achieve effective results Family welfare services should be effectively integrated with general health services on the one hand and on the other they should be made a component of integrated development programmes such as IRDP, RLEGP, Minimum Needs Programme etc Active involvement of community is imperative

An Integrated Approach

We would be naive, if we imagine that the reduction in fertility rate would itself raise the standard of living Unless family planning programme is linked and related to total programme of development including education of girls, status of women, marriage age, female employment, social security, poverty elimination etc accompanied by wider distribution of the gains of development among the mass of population, reduction in the rate of population growth is not likely to be achieved. The main issue is to tackle the problem of social development The emphasis should be on an integrated and package approach to economic progress and social transformation coupled with family planning programme

Economic development is fundamentally a process of social transformation and institutional change. Despite a satisfactory economic growth in India the social condition has not improved considerably Developmental planning should directly involve attempts to promote economic and social changes by modifying existing social and institutional structure making them more responsive to economic growth The basic objective of economic development is social development which includes population, health, housing, nutrition, education, employment, social security etc. The focus is on human resource developmet which is an importent agent as well as objective growth.

Population and socio-economic development are related to each other in one or many ways. Demographic trends are affected by socio-economic development and vice-versa. The ultimate aim of any population policy should be to bring about an improvement in the quality of life of every individual. Policy should be more population responsive rather than population influencing.

In most of the developed countries of the world the birth and death rates have declined almost simultaneously with sufficient economic and social development. The rise in the level of living in the areas such as education, health, nutrition and housing have been the basic factors responsible for the decline in death and birth rates in the developed countries. In India over the years a considerable decline in mortality is achieved in the absence of economic and social development owing to large scale diffusion and adoption of medical facilities But there is no commensurate decline in the birth rate and this is directly due to the overall under development of the society

Personal and psychological issues appear to be at the heart of the population problem because the number of children in a family is a question for the couple concerned, and all the efforts and incentives offered by Governments, to reduce birth rates seem to have little effect The main difficulty facing government is the lack of sufficiently strong motivation on the part of the couples. Historical evidence indicates that in all societies at all times, couples who have ceased to desire more children have taken steps to aviod having them. "It is motivation not contraceptive technology that is decisive "

Researchers find that motivation for small families comes with increased affluence But it is difficult task to increase affluence when economics of many developing countries cannot keep up with the rapidly increasing population

Since the inception of the Mass Education and Motivational Programme, considerable success has been achieved in creating extensive general awarness regarding small family norm and family planning measures, "It has been found that though about 90% of the eligible couples are aware of the family planning programme, only 20% of the eligible couples are practising family planning methods. This wide gap between awareness and adoption calls for rethinking on family planning motivational programme"

As a right step family planning programme is integrated with maternity and child health programme, so as to make it effective family welfare programme Now MCH is providing infant care and child health services, maternity and mother health services Visiting mothers are exposed to the factual information about family planning and then motivated to adopt family planning measures. Family welfare staff working in field look after expectant

mothers, take care of infants and children by immunising them against small pox, diptheria, tetanus, etc. The integration of family planning services with those of health convince the people that planned parenthood is not only a clinical effort but an integral component of general health care

The success of family welfare programme depends upon the active participation of the population falling in the reproductive age group Various studies have established the fact that females are less exposed to family planning knowledge than males. Motivation endeavour should, therefore, aim at exposing equally both males and females,

The Culture of Poverty

The culture of poverty is associated with a sense of resignation, fatalism, a low motivation for education and change, inadequate preparation for an occupation and no plan for future. There are three types of satisfaction which rural parents derive from additional child- a psychological satisfaction, an additional productive entity and an additional source of security in old age. Thus to have more children is an economic necessity in poor society and it is a reflection of the culture of poverty This attitude has also led to strong son preference in India and discrimination against women Males have an easier accessibility to educational facilities than females do. There is positive evidence to conclude that the health status of women has declined over the last thirty years Such attitude reveals the poverty of culture and thus a vicious circle is created.

It is only socio-economic change that can break this vicious circle. The best way to bring about this socio-economic change is to provide educational and gainful employment opportunities

Community Involvement

A study conducted on tribal women from economically weaker section in Paderu Block of Visakhapatnam district of Andhra Pradesh reveals that these illiterate women living in remote places showed awareness about family welfare programme, unforunately these programmes have not benefitted them This shows not only the weakness of the programme executing machinery but also the failure of the programme to involve community and individuals. Community participation not only means co-operation of the people with medical staff in implementing the programme but also financial involvement of the community

Many non-governmental organisations around the world have developed necessary capabilities and are engaged in disseminating, educating and motivating the people, and providing services in a variety of ways in the family welfare programme

Strong family planning associations have been, built up in Sri Lanka, Malaysia, Thailand, Indonesia, S. Korea, the Philippines, China and other countries

Even where there are extensive government programmes, the need for non-governmental effort is not diminished, but in fact enhanced.

In all developing countries where young people constitute about 50%. of the population, awareness and knowledge about population and family planning are essential for better future.

Community involvement is the secret of success in family planning in Indonesia, Sri Lanka and Thailand. The Indian panchayat system has a big potential.

Such community involvement succeeds best, where family planning is linked with other developmental measures, especially of health, maternal and child care, education training in skills and activities leading to income generation for women and youth and rural development in general with the result that this ultimately leads to a clear perception that family planning is an integral an to a better life.

Family welfare has been rightly given a prominent place in the new 20 point programme and all the departments of the government are committed to.

(i) Promote family planning on a voluntary basis as a people's movement.
(ii) augment universal primary health care facilities and control of leprosy, T.B. and blindness and
(iii) accelerate programme of welfare for women and children and nutrition programme for pregnant women, nursing mothers and children, specially in tribal areas.

An important long term measure which has not so far been given due importance is the introduction of population education in schools and colleges. Such an education will create a sense of responsibility, enlightened self interest and a very strong motivation for a planned parenthood □□□

States urged to conserve forests

With a view to conserving forests the Government has advised the State and Union Territory (UT) governments to consider banning of felling of trees above 1,000 metres at least for some years. They have also been advised to avoid clearfelling of natural forests. In the eventuality of such felling being necessary for restoration of crop or other silvi-cultural considerations, restrict it to 10 hectares in the hills and 25 hectares in the plains.

Total area under reserve forests in the country, as reported for the year 1984-85, was 4,01,935 sq. kms.

States and UTs have also been desired to set apart four percent of the forest area as protected area for wildife sanctuaries, national parks, biosphere reserves, etc.

BOOK REVIEW

MADAME BHIKHAIJI RUSTOM CAMA by KHORSHED ADI SETHNA. PUBLICATIONS DIVISION; Rs. 22/-. PAGES-171

Madame Cama was among the pioneers of India's independence movement early in this century. She defied British imperialism when it was unthinkable for women to become leaders. Madame Cama came from the Parsi community. She was the first Indian to shine as a fiery orator at the International Socialist Congress in Stuttgart, Germany, in 1907, much before the appearance of Gandhiji on the political horizon. She was the first to unfurl the Indian National Flag on foreign soil. It was almost the same tricolour which independent India was to adopt as its national symbol forty years later.

Madama Cama was a contemporary of Motilal Nehru and Rabindranath Tagore. Not much is known about her early life except that she was born in September 1861 in an affluent Parsi family of Bombay. She developed a liberal and progessive outlook, far in advance of her times. The Parsis were generally considered pro-British in that era. But something in her upbringing inspired Madame Cama to turn a rebel. She was selfless and dedicated in life Yet she was self-willed, spirited, strong-headed and unconventional This is why she gave up her home and adopted the rough and tumble of an uncertain life in politics. The restless spirit that she was, Madame Cama drifted away from her conservative husband to dedicate herself in the service of the motherland Circumstances compelled her to live in exile most of her active life As a fiery nationalist, she organised public opinion in Europe in favour of India's Independence

But destiny was unkind to Madame Cama She died unhonoured and unmourned on August 16, 1936 Her privations and travails for national cause earned her no recognition in her life time

Even then her credentials as a forerunner of the freedom movement are above board. Others took decades to catch up with her ideas

This book nicely brings out the personality of Madame Cama with the conclusion that her obscurity is undeserved. She must get her rightful place in Indian history

S.M. KUMAR

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warehousing and retail network etc., has put fertilisers of right quality, in adequate quantities and at the right place thus enabling its timely, balanced and efficient use by the farmer The emphasis on agricultural research, proper interface between research and extension and systematised promotional efforts by way of demonstrations, soil testing, farmers' training etc., has enabled the farmers to get the best out of fertiliser use in terms of higher productivity. These efforts have been adequately supported by other complimentary measures such as adequate availability of credit, infrastructural support for both input supply and marketing of produce and specifically designed measures such as crop insurance etc. to tackle risks and uncertainties.

Conclusion

While it would appear that our basic objectives in terms of matching fertiliser use with the growing requirements of agriculture, have been redeemed, the situation brooks no complacency In fact, we only need to foresee the challenges of projected increase in fertiliser consumption consistent with increasing foodgrain requirements in the 90s and beyond, to recognise the need for not only continuation of efforts in the past, but also, their intensification. This is necessary as the projections on the basis of contemplated additions to domestic capacity point towards significant shortfall in indigenous availability in respect of both N and P. In 1994-95 for instance, on current reckoning, there will be a shortfall of 1.7 million tonnes N and about 1 million tonne P The global demand-supply scenario is also not quite encouraging. In fact, as per recent World Bank/ UNIDO/FAO Working Group projections (July 1988) in1992-93, there will be a shortfall in nitrogen by about 0 7 million tonnes. In phosphates and potash, the existing surplus will be progressively reduced. All this points towards the need for pursuing the goal of increasing self-reliance in fertiliser availability with greater zeal and in this endeavour, to continue with greater vigour the policies and programmes which have contributed to our success in the past. In particular, there is need for maintaining a proper pricing environment ensuring a reasonable return on investment consistent with continued growth of industry, which has received a set back in the recent past because of certain changes enforced and contemplated. □□□

Foreign collaboration rose in 1988

The government approved 853 foreign collaboration proposals in 1987 and 642 proposals were approved upto September, 1988. Out of these 242 proposals during 1987 and 207 proposals upto September, 1988 involved foreign investment. The amounts of foreign investment involved were Rs. 10770.57 lakhs and Rs. 16935.58 lakhs respectively for the respective periods.

India launches oil exploratory work in Vietnam

India made history in the field of oil exploration work by venturing one in Vietnam offshore. This is for the first time that India has taken up such a venture in a foreign country. The Minister for Petroleum & Natural Gas Shri Brahm Dutt inaugurated the launching of the seismic survey on 3rd March 1989 in designated blocks in Vietnam offshore by Hydrocarbons India Ltd. (HIL). The Minister was on board the vessel "Sagar Sandhani" owned by the Oil & Natural Gas Commission.

This is the first time that a production sharing contract was signed by HIL last year with Petrovietnam, the national oil company of the Socialist Republic of Vietnam, for carrying out exploration in about 14,000 sq. kms. offshore of South Vietnam. The seismic survey marks the beginning of the first phase of exploration for which a seismic survey vessel of ONGC has been taken to the area from India. It is expected that HIL will acquire 6,000 line kms. of seismic data and process it in the ONGC facilities in India. This would be followed by drilling of exploratory wells.

Shri Brahm Dutt said that the event marked a major step in the wide-ranging economic relationship between India and Vietnam. The petroleum sector is vital for both the countries and cooperation in this sector would be very significant in the friendly relations between the two countries, he felt.

The Minister expressed his satisfcation at the speed with which both HIL and Petrovietnam had organised themselves to make it possible for the survey to start within the given time-frame for this work in the contract. The present venture would turn out to be very productive and the ties between India and Vietnam would be strengthened through further cooperation in the petroleum sector, he averred. ☐

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Methodology to determine poverty

To identify the poor, the Planning Commission constituted a "Task Force on Projections of the Minimum Needs and Effective Consumption Demand" in 1977. The Task Force defined the poor as those whose percapita consumption expenditure class having percapita daily calories intake of 2400 in rural areas and 2100 in urban areas.

The estimate of calorie intake are derived from food consumption pattern of corresponding class and the calorie content of the food items. Calorie norms are adopted after taking into consideration age, sex and occupational structure of the population. The estimated per capita monthly expenditure which satisfies the calorie norm is known as "Poverty line". The Task Force defined poverty line as the per capita monthly expenditure of Rs. 49.09 in rural areas and Rs. 56.64 in urban areas at 1973-74 prices. The updated poverty line was Rs. 101.8 per capita per month in rural areas and Rs. 117.5 per capita per month in urban areas at 1983-84 prices and Rs. 107 and Rs. 122 per capita per month in rural and urban areas respectively at 1984-85 prices.

The estimates of persons living below the poverty line have been prepared in the Planning Commission on the basis of the National Sample Survey data on household consumer expenditure conducted in 1972-73, 1977-78 and 1983-84. According to the 1983-84 estimates which are provisional, there are 2710 lakh people living below poverty line, of this 2215 lakh people are in Urban and 495 lakh people in rural. There is about 1½ to 2 percentage points decline in poverty proportions in 1986-87 over 1983-84. □□□

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LAND REFORMS

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...tlight on Budget



Land Reforms

"Land Reforms have been recognised to constitute a vital element both in terms of the anti-poverty strategy and for modernisation and increased productivity in agriculture. Redistribution of land could provide a permanent asset base for a large number of rural landless poor for taking up land-based and other supplementary activities. Similarly, consolidation of holdings, tenancy regulation and updating of land records, would widen the access of small and marginal land-holders to improved technology and inputs and there by directly lead to increase in agricultural production." □□□

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Land reforms : issues and solutions

Bharat Dogra

In this article the author discusses in detail the conceptual issues and the practical problems vis-a-vis land reform measures in India. The author attributes the tardy progress of land reforms to official apathy and the misuse by land owners of the many concessions and exemptions under the various ceiling laws. A stronger will on the part of implementing agencies and larger equalitarian changes in other sectors of economy including industry to enhance the effectiveness of these measures are the need of the hour, the author feels.

AMONG ALL THE POVERTY-ALLEVIATION MEASURES that have been suggested from time to time, land-reforms remain the most attractive in Indian conditions The majority of the poor are engaged in agricultural work, which is the most important means of their livelihood, as landless farm workers, tenants, sharecroppers and as small/ marginal peasant proprietors Sometimes these various roles may be combined within a single family or even a single person Thus the most likely solution that suggests itself is to make available more ownership land to them, so that they can grow two (or more) blades of corn where only one (or none) grow before. This is the direct appeal that land-reforms have as a poverty-alleviation measure, in the eyes of the well-intentioned administrators and academicians as well as the potential beneficiaries. As against other new skills and strategies which remain untried for potential beneficiaries. this is one way of improving their livelihood which the latter know and understand

However, the importance of land-reforms should not be exaggerated to the extent of neglecting other measures of broad-based equalitarian change without whose support land-reforms by themselves cannot go very far If India, had vast acerages of land only waiting for redistribution among the poor, then perhaps the solution of poverty could be seen mainly in land-reforms But such are the land-pressures that actually exist in India, that land-reforms by themselves will give only small plots of land to the families now depending mainly or entirely on agriculture According to 1980-81 agricultural census data (provisional figures) there are 89 35 million operational holdings adding upto 162 79 million hectares In other words, the average size of a holding is 1 81 hectares The average size of a farm holding will be even smaller if the claims on land of the present-day landless depending mainly on agricultural labour for livelihood are also taken into account, as these certainly should be As complete equality is unlikely to be achieved, the share that will accrue at the lower levels will consist of still smaller plots of land

Will ownership alone suffice

Clearly, just making available these plots of land will not be adequate for the poor The ultimate aim after all is not to make everyone the proud owner of a small plot of land but to raise his standard of living to a satisfactory level To make this possible various activities-horticulture forestry agro-processing, animal husbandry, artisan, cottage and small industry will have to be started for which the ownership of even these small plots will be an asset for the weaker sections At the level of technology, a sustained effort has to be made to make available the most appropriate technologies for those carrying out agricultural and related activities as well as some artisan and cottage industry activities on these small plots of land In artisan/industrial works persons with traditional skills should get preference

All these efforts are likely to be effective if side by side with land-reforms, equalitarian changes also take place in other sectors of the economy, including industry For example, the efforts to start small-scale industrial acitivity will remain crippled if large-scale monopolies are allowed to manufacture consumer goods of everyday use which can be manufactured by local, small-scale effort Further, as all family members cannot be accommodated in the small-

scale rural effort, it is important that the pattern of larger industrial development should be such that to the extent possible, it makes use of labour intensive methods and pays a fair wage for work, including that at the lower grades (it is in these categories that the relatively less educated persons from the rural weaker sections are likely to be absorbed).

Within the rural areas, our concern should be not only the equal distribution of land but also the equal distribution of all income earning assets. At present we see that at many places the same group of big landowners is involved in forestry contracts, in mining and quarrying works, in road and bund building contracts, in almost everything that can earn a fast buck for them in rural areas. Why should this be so? A firm policy decision should be taken, firstly, that broad-based land-reforms should be implemented strictly, and secondly, as even after this the land ownership is likely to remain skewed in favour of the existing dominant land-ownership class, the opportunities of other works—forests, minor minerals, road-building contracts etc.– should be given to the co-operatives of the weaker sections who have lesser land even after land reforms

methods of land re-organisation

The debate on land-reforms has given a lot of attention to the alternative methods of land re-organisation after it has been freed from the control of big land-owners Till some decades ago the concept of collective agriculture had a lot of attraction, but in more recent times there has been a lot of disillusionment with it As for cooperative farming, there are several practical problems, so the most desirable objective at present appears to be villages of small peasant proprietors, retaining individual ownership of their land but mobilising for collective work relating to irrigation, drainage, soil-conservation, *forestry, public health, community works et al*

Then there is the question of absentee land ownership. There are several persons who have inherited land, but as they are now in regular jobs or trade outside the villages, they do not look after this land. They have given this land to some family members and frequently also claim a share of this produce, or they have given this land to other farmers on sharecropping or contract basis. Thus they get income from their regular jobs/trade and in addition they also derive income from agricultural land without working on it There appears to be a strong argument in favour of banning such absentee ownership of land and distributing such land among the landless. But before rushing to any hasty decision, other aspects of this issue need to be thought over.

Land pressures in villages being what they are, several persons anxiously try to get jobs outside the village. In this they have the support of the larger family. It is thought that if one son in the family gets a job and another one can look after the family land, then things will go well in the family. If we abolish the land rights of absentees, then the mobility of rural work force will be very adversely affected. People will be reluctant to accept work opportunities outside the village for fear of losing their landholdings. The social and family level disruption this may lead to, can be imagined.

So in this matter we will have to treat a middle path, whereby the privileges of the really big and rich absentee landowners can be taken away while not fully taking away the rights of the small absentee landowners. How exactly this can be worked out remains a challenge

Above we've discussed some important conceptual issues relating to the visualisation of land reforms and related steps as an effective and vigorous poverty-alleviation measure. We now have to get down to the practical reality of the way things actually are Table 1 and 2 give a summary of the existing situation. It is clear that land inequalities still continue to be quite severe (Table 1) while the actual distribution of land under ceiling laws has been very low even compared to the peak official estimates of the likely availability of this land (Table 2). The realisation of the larger equalitarian changes which will enhance the effectiveness of land reforms has also been equally weak, if not even weaker Alienation of tribal land and large-scale displacement of people due to the construction of large dams and other development projects (without ensuring availability of alternate land for them) is leading to landlessness of a large number of people who were not landless earlier.

Table 1

Operational holdings and Area Operated in 1980-81

Category and size of operational holdings	Percent of operational holdings	Percent of Area operated
(1) Marginal (below 1 ha)	56.5	12.2
(2) Small (1-2 ha)	18 0	14 1
(3) Semi-medium (3-4 ha)	14.0	21.2
(4) Medium (4-10 ha)	9.1	29.7
(5) Large (10 ha and above)	2 4	22 8

Table-2

Various Estimates of Surplus Land

	Million hectares
16th round of NSS (1960-61)	8 87
26th round of NSS (1971-72)	4 80
Agricultural census (1970-71)	12 10
Agricultural census (1976-77)	8.88
Actually declared surplus till the spring of 1986	2.94
Actually distributed till the spring of 1986	1.82

However, if we look not just at the figures of the land redistributed under ceiling laws, but also at the land plots carved out of the village community land

(Contd. on page 18)

Land Reforms in India: An overview

Prof. R.L. Mali

The author brings out the fact that the concept of land reforms is to bring the actual cultivator in direct contact with the state. But the approach of the states towards implementation of Ceiling Laws has been causal and half-hearted, laments the author. Hence he pleads for an effective and whole hearted implementation of the land reforms by all states.

PRODUCTIVITY IN AGRICULTURE IS MAINLY dependent on two sets of factors– technological and institutional. Among the technological factors are the use of agricultural inputs and methods such as improved seeds, fertilisers, improved ploughs, tractors, harvesters, etc which help to raise productivity, even if no land reforms are introduced. The institutional reforms or land reforms include the redistribution of land ownership infavour of the cultivating classes so as to provide them a sense of participation in rural life, improving the size of farms, providing security of tenure, regulation of rents etc In other words, the institutional factors, such as the existence of feudal relations, small size of farms, sub-division and fragmentation, insecurity of tenancy rights, high rents etc. act as disincentives to the peasantry to raise production. They weaken the capacity of the farmers to save and invest in agriculture as also to enjoy the fruits of their labour These two sets of factors are complementary in the process of agricultural development However, here, we are concerned with land reforms only

The purpose of the land reforms is two-fold On the one hand it aims to make more rational use of the scarce land resource by affecting conditions of holdings, imposing ceilings on land holdings so that cultivation can be done in most economical manner, i.e., without any waste of labour and capital, on the other it is a means of redistributing agricultural land in favour of the less privileged classes, and of improving the terms and conditions on which the land is held for cultivation by the actual tillers Thus, the entire concept of land reforms aims at the abolition of intermediaries and bringing the actual cultivator in direct contact with the state. The provisions of security of tenancy and rent regulation provide a congenial atmosphere in which the agriculturist feels sure of reaping the fruits of his labour. The scope of the land reforms, therefore, entails: (a) abolition of intermediaries, (b) tenancy reforms, i e., regulation of rents, security of tenure for tenants and conferment of ownership on them, (c) Ceiling and floors on land holdings, (d) agrarian reorganisation including consolidation of holdings and prevention of sub-division and fragmentation and (e) organisation of co-operative farms.

Measures adopted since Independence to achieve land reforms

1. Abolition of intermediary tenure · Intermediary tenures like zamindars, jagirs, inams etc which prevailed over 40% of the area of the country were abolished. Waste and fallow land was distributed to landless. Only a few intermediary tenures remain, namely Devasthan inams in Maharashtra, service jagirs in Orissa and communidades in Goa.

2. Provision of security to tenents and conferring ownership rights on them Security of tenure to tenants has been given in all states. Rent payable is higher than 1/5th to 1/4th of gross produce in Andhra Pradesh (Andhra area), Haryana and Punjab In other states the rate of rent does not exceed this ratio Ownership rights on tenants have not been conferred in Andhra Pradesh (Andhra area), Bihar, Haryana, Punjab, Tamil Nadu and West Bengal By giving of ownership rights in other areas, 77 19 lakh tenants over 138 42 lakh acres have benefitted

3. Imposition of land ceiling on agricultural holdings and distribution of surplus land : Land ceiling laws were first enacted in the 50s and 60s. These were revised after national guidelines were issued in 1972 The declared surplus land is far less than the surplus estimated from agricultural census and other data The declared surplus is less than 2% of the cultivated area The declared surplus land is also not fully taken possession of due to litigation The sixth plan target was that the entire surplus land was to be taken possession of and distributed by 1982-83. This is far from being achieved still. The situation is represented in Table-1.

Table 1

Distribution of ceiling surplus land. Target and achievement (Lakh acres).

Year	Target	Achievement	Percentage of Achievement
1980-81	–	1 45	–
1981-82	–	0 77	–
1982-83	5 31	2 53	47 7
1983-84	2 84	1 91	67 1
1984-85	1 99	1 58	79 6

Source · Poverty Alleviation, Sixth Plan, Government of India, Department of Rural Development, Ministry of Agriculture & Rural Development, 1985 New Delhi

State Revenue Ministers' Conference · The states have been requested to take up a campaign for bringing informal and oral tenants on record and move towards a stricter definition of personal cultivation. States were also requested to consider inclusion of major sons with effect from 24-1-1971 to determine family ceiling limits and to consider lowering of ceilings to 5 hectares for irrigated land with two crops, 7-5 hectares for irrigated land with one crop and 12 hectares for other lands

Financial Assistance to surplus land Allottees · Under the centrally sponsored scheme, with 50% share by centre, assistance is given to surplus land allottees at Rs. 2500 per hectare They can get assistance also from IRDP etc subject to an overall ceiling of Rs. 8000/- per family During Sixth Plan Rs 10 34 crores were released by the centre Centre share utilised was Rs 5 11 crores

4 Updating and Maintenance of Land Records Land and crop based records are not maintained yet in the North Eastern states, West Bengal, Orissa and Kerala A drive is taken up in 1985-86 for updating land records Centrally sponsored scheme for strengthening revenue machine is proposed in Seventh Plan for increasing the number of patwaris and kannungos, giving training etc Patta pass books with legal status are to be issued to landowners and tenants

5 Consolidation of Holdings With 56 lakh hectares consolidated in the Sixth Plan, the total consolidated area is 518 lakh hectares which is 33% of total cultivated area In the Seventh Plan 25% of the consolidable area is to be taken up, giving priority to irrigated areas and areas with large number of small and marginal farmers and surplus land allottees

Shortcomings.

(1) Abolition of Intermediaries. (A) After Independence a number of laws were passed by the state legislatures to abolish intermediaries While the aim was to abolish the intermediaries between the tiller and state, in actual practice the legislative enactments equated intermediaries with zamindars and consequently, the legislation left a class of rent receivers and absentee land-lords under ryotwari untouched.

(B) Although steps were taken earlier, the actual abolition of intermediaries started in 1948. Moreover West Bengal,the state worst affected by the ravages of absentee landlordism— was among the late comers to adopt legislation in 1954-55.

(c) The rates of compensation, the ceiling limit of compensation and even the principles determining compensation were revised by the judiciary and landlords were quite successful in getting equitable and in some cases more than equitable compensation.

(2) Tenancy Reforms :

(A) The rates of rent prevalent were excessive by any standard of social justice Therefore, various states have passed necessary legislation regulating rates, but there are large variations in the rates of rents fixed in different states.

(B) Owing to the weak position of the tenants and the prevalence of the widespread land hunger, the law regulating rents is observed more in its breach than in its compliance

(c) Although attempts have been made to provide security of tenure, redistribution of land and fixation of fair rents, yet informal or oral tenancy has continued to exist even to this day Bulk of land is leased out on informal tenancy basis.

(D) In states like Assam, Bihar, Jammu and Kashmir and Tamil Nadu, no provision exists even for an optional right of purchase of land to tenants

(E) In the absence of limits on rents, all rules about security of tenure can be nullified because the landlord can simply raise the rent beyond the tenant's capacity to pay and legally evict him for non-payment

(F) Besides this, legislations aim to provide security to a minority of tenants who paid fixed rentals and left out the majority of the sharecroppers who represented the more vulnerable section of the Indian peasantry

(3) Ceiling on Land Holdings

(A) The legislation pertaining to ceiling on land holdings led to a large number of malafide transfers: transfers among the members of the family and benami transfers

(B) Although the revised ceiling law was passed in 1972, the progress in acquiring surplus lands received a serious setback due to judicial intervention Therefore very little land was declared surplus, was taken possession of and a very little of which was distributed among the allottees

(C) While officially the states accepted the ceiling programmes, they rejected them in practice Their approach towards the implementation of the ceiling laws has been causal and half-hearted.

(4) Consolidation of Holdings

Progress in consolidation of land holdings has also been unsatisfactory as only 1/3 of the total cropped area of the country has been consolidated so far

(5) Poor Implementation

Land reform programmes were started with a great enthusiasm, but soon the vitality of the enthusiasm was lost and the implementation of land reforms became a very tame affair. There is no doubt that land reforms were conceived broadly in a proper perspective but due to loopholes, they have brought little justice to the rural people. The results are far from satisfactory

The reasons for the poor implementation are lack of political will, absence of pressure from below because the poor peasants and agricultural workers are passive, unorganised and inarticulate, lukewarm and often apathetic attitude of the bureaucracy, absence of up to date land records, and legal hurdles in the way of implementation of land reforms.

(6) Low Priority

Land reforms are a low priority item in our development strategy, despite all talk of socialism and building up an egalitarian society and lifting people above the poverty line

(7) An Isolated Programme

There was little or no linkage between this programme and IRDP or the NREP/RLEGP and it functioned in isolation generally through the Revenue Agencies rather than the DRDA and the Block level functionaries

(8) Lack of Dynamism

The agrarian policy enunciated by the Government was prepared in a piecemeal fashion It not only lacked elements of cohesion and synthesis but suffered most due to the absence of dynamic ingredients that are necessary to impart a new look to the rural life

(9) Failure to create the Co-operative Village Management .

The ultimate objective of land reforms should be a creation of co-operative village management— an integrated socio-economic rural structure in which agricultural production, village industries, processing industries, marketing and rural trade are all organised on co-operative lines. However, the present co-operative institutions are working only as service co-operatives supplying seeds, fertilisers, agricultural implements etc.

Suggestions

1. Not only Land Reforms but also other development and anti-poverty programmes in India have not achieved the stipulated targets or success and this is because these programmes and schemes are not properly and effectively implemented. Therefore, what is needed is, first of all, the effective and whole-hearted implementation of land reforms.

2. A total ban on letting or sub-letting land would neither be socially desirable nor administratively practicable It is, therefore, more rational to take measures to minimise the evils of tenancy legislation.

3 Plugging of mala-fide transfers is quite essential because they go against the spirit of land reforms.

4 Mere transfer of ownership or provision of security of tenancy is not enough in itself either to raise productivity or bring the marginal farmers/ landless labourers above the poverty line Therefore, the beneficiaries of land reforms, most of whom belong to the poorest segments of the community, should be supported by other ongoing rural development schemes like IRDP, DPAP, NREP, etc to enable them to make productive use of the land or to reap the benefit of security of tenancy

5 Land policy should have at least three crucial planks First, the policy must better the lot of the peasant economically, culturally and socially Secondly, it should effectively dynamize the rural sector so as to release a continuous and adequate flow of marketable surplus of foodgrains and agricultural raw materials Thirdly, the policy must sefeguard, as for as possible, our democratic way of life. For the simultaneous achievements of these three objectives, co-operatives seem to be the best solution

6 Service co-operatives, on the basis of voluntary membership, for the purpose of supplying good seeds, fertilisers, agricultural implements etc are certainly admirable, but the switch over from service co-operatives to joint co-operative farms would be a suitable step towards co-operative village management

7. As long as the tenants continue to be weak socially, economically and politically there will be no significant improvement in the situation Therefore, strong organisations of tenants need be organised

8 The policy of "land to the tiller" should be faithfully followed. The ownership rights in land should go to the persons who work on it

9 The definition of personal cultivation should be properly revised and the amended law should be strictly enforced It should also be provided that all transfers of agricultural land in future should be only to persons who reside in the same village in which the land is located or in an adjacent village.

10 The land records will have to be continuously up-dated so that the existing laws are strictly followed

11. Finally, efforts should be made to ensure that the small farmers get credit from co-operatives and banks so that economically their position may be improved ☐ ☐ ☐

Land reforms : myth or reality

Balraj Mehta

"Land to the tiller" still remains a slogan/myth with official policy and planning tending to play extremely safe and circumspect on the question, says the author. Implementation of the programme has been extremely tardy and even the "high priority" accorded to it in the mid-term review of the 7th Plan is seen by the author as merely a populist gesture and a conventional ritual. The author affirms that the basic contradictions in the official policy for the farm sector must be resolved and land distribution programmes implemented with conviction and efficiency, if, even the modest land reform objectives and targets outlined in the mid-term review of the 7th Plan have to be realised and the green revolution extended to new areas and new segments of farmers.

THERE IS OCCASIONAL TALK ON LAND REFORMS in the official establishment But, are land reforms still on its agenda ? The mid-term review of the Seventh Five Year Plan gives a broad hint that this is really not the case In order to reduce the incidence of rural poverty the mid-term review of the Seventh Plan lists some broad policy options to be pursued It also notes in this context "redistributive land reform measures' adopted, it may not be amiss to emphasise, in the past and just stops at that This is a tacit announcement that nothing further in this direction is called for or can really be done It is also explicity admitted that land reform measures in the past have not resulted in the redistribution of land and, on the contrary, concentration of land has increased.

It is stated with practiced calm which is a characteristic of such official documents that the distribution of ownership of land holdings remains unequal with nearly three quarters of the land being owned by one-quarter of the land-owning households. Further, the number of marginal farmers as well as landless farm workers have significantly increased even as there has also been a decline in the number of self-employed relative to casual labour in the structure of the rural workforce. The average value of assets (excluding land) per rural household are estimated to have increased from Rs 1655 in 1971 to Rs 2236 in 1981 (at 1971 prices). But the bottom 30 percent of the rural households continued to hold only 4 percent of the assets in 1981-82 and the share of top 30 percent increased to 78 percent

All these are indicators of the total failure of redistributive land reform measures and intensification of the exploitation of the landless and the land poor in the rural economy with increasing concentration of land and other assets in fewer and fewer hands. It was, in the light of such developments, merely a populist gesture and a conventional ritual in the mid-term review of the Seventh Five Year Plan to accord "high priority" for the land reform programme.

Objectives of the reform

The National Land Reform Policy, according to the midterm review of the Seventh Plan, is committed to five objectives These are abolition of intermediary tenures, tenancy reforms aimed at security of tenures, regulation of rent and conferment of ownership rights on tenants, ceiling on land holdings and distribution of ceiling surplus lands, consolidation of holdings and updating of land records But it is frankly admitted that none of the land reform targets laid down even in the Sixth Plan have so far been achieved The surplus land so far formally distributed is hardly 45 lakh acres, not taking into account, as admitted, eviction of the beneficiaries from the land claimed to have distributed to them.

Implementation lags behind

The distribution, as claimed, of a paltry 45 lakh acres under the ceiling laws can have hardly made in

effect any worth-while impression on the land ownership pattern in the farm sector Revealing in this context is the admission in the midterm review that an expert committee set up on the status of record of rights in land which are the base of any land reform measure is expected to only submit its report in another three years It is only then the government will "formulate suitable long-term measures" to set the land records right, let alone implement any worthwhile land reform measures which will protect the poor farmers from alienation from their small parcels of land and landless workers from exploitation by the rich and middle landowners. It is no wonder that official policy and planning are tending to play extremely safe and circumspect on the question of land reforms and like to place their reliance for increasing farm production and productivity not on land reforms but price incentives and techincal innovations and inputs for a thin stratum of rich and middle farmers This has implications– economic, social and political, for future developments in the farm sector and rural economy

The fact indeed is that the launching of what is called the new agricultural strategy in the mid-sixties and the so-called green revolution in its wake, radical land redistribution was bound to be rendered irrelevant in official policy. Having failed in the sixties to carry out meaningful land reforms, after statutory landlordism had been abolished in the fifties, the idea of a ceiling on land ownership in order to find surplus land for redistribution was bound to become a smokescreen for eviction of tenants, resumption of land for "personal cultivation" and exploitation of the landless and the land poor as wage workers

It has not been fortuitous, therefore, that in framing land reform laws, what has always been placed on the agenda since the mid-sixties has never been redistribution of surplus land but consolidation of land belonging to what are called viable farmers able to undertake commercial agriculture on modern lines with the help of price incentives and subsidised supplies of a variety of technological inputs and services it is not fortuitous either that restrictions on import of even harvestor combines have been lifted in the Seventh Five Year Plan Encouragement to farm mechanisation can, after all, hardly square with a serious commitment to redistributive land reforms.

The Task Forces' view

It was stated quite frankly by the Task Force set up by the government on agrarian relations which submitted its report in 1973 that "land to the tiller" slogan which had been raised for mobilising the mass of the peasantry to fight the colonial rule could not be realised. "Land to the tiller" to be meaningful means that those who actually cultivate land should own it and, conversely, those who do not personally do so should be deprived of any ownership right on land The Task Force however, found that in the context of the social, economic and political conditions in the country "such a law will not be enacted and if enacted will not be implemented."

The stumbling block

It has since transpired that objectives of the official land reform programme have been significantly scaled down But even the implementation of the more modest programme has come up against formidable barriers put up by vested interests. Laws for the regulation of rents, consolidation of holdings, minimum wages and updating of land records have not been implemented in a manner to subserve their proclaimed purpose On the contrary, they have been bent, in the course of their implementation, to further strengthen the vested interest of the rich and middle farmers and increase their economic power, social clout and political influence The marginal farmer has been forced to lease out his land to the viable farmer and earn his livelihood as farm worker This has resulted in operational holdings tending to become bigger than ownership holdings The fact to be reckoned with indeed is that redistributive land reforms do not square with the promotion of commercial agriculture and extraction at a heavy cost, social, economic and political, of marketable surpluses from the rich and middle farmers for feeding the urban population

The basic contradictions in official policy for the farm sector must first be resolved, if, even the modest land reform objectives and targets outlined in the midterm review of the Seventh Plan have to be realised This is all the more necessary if the effort to increase production and productivity in the farm sector has to be enlarged and extended and the mass of the marginal and subsistence farmers have to be involved for the success of this effort The attempt to push the so-called green revolution which has got stuck and side-tracked within a selected geographical areas on a narrow social base to new areas and new segments of farmers is bound to run into trouble unless essential land reforms are carried out with conviction and efficiency The political will and administrative efficiency necessary for the implementation of meaningful land reforms, however, remain conspicuously missing

The power of the vested interest is indeed fierce and has to be reckoned with This has only been emphasised by the latest move in Andhra Pradesh which is ostensibly aimed at the review of the cases of false declarations, void sales and benami transactions in order to redetermine the surplus land under the land ceiling law However, the catch in place is that all this will be subject to the stipulation that persons (meaning landlords) who are in actual possession and enjoyment of disputed land would not be disturbed and all transactions (false declarations, void sales and benami transfers which have been resorted to by the landlords to evade and thwart the ceiling law) would actually be regularised This is not the first time or the first case of its kind mocking at the implementation of genuine land reforms.

(Contd. on page 12)

Land Reforms : Need for lower ceiling limits

Munish Goyal

Equitable distribution of land, says the author, is the best solution for minimising the inequalities rampant in our society. This calls for a rigorous implementation of the existing ceiling laws whose dimensions are analysed by the author in this article.

NEXT ONLY TO WATER, land is the single largest natural resource available to the humanity and it is getting scarcer and scarcer everyday-first because of tremendous population pressure and secondly because of merciless manner in which it is being used, or rather abused/exploited. The Directive Principles of State Policy enshrined in the Indian Constitution enjoin that the "ownership and control of the material resources of the country are so distributed as best to subserve the common good; that the operation of the economic system does not result in the concentration of wealth and means of production to the common detriment". By 44 th Amendment of the Constitution in the year 1978, Article 38 (2) has been added which states "The State shall, in particular, strive to minimise the inequalities in status, facilities and opportunities, not only amongst individuals, but amongst group of people residing in different areas or engaged in different vocations "

Equitable distribution

In view of the above Directive Principles and the non-availability of land to the teeming millions in rural India, its equitable distribution is the only plausible solution. However, the criteria of economic holding and increase in agricultural production cannot be ignored. The agricultural economy has to be diversified and brought to a much higher level of efficiency. Agriculture is and will continue to play a dominant role in Indian economy, contributing about 50 percent of the nation's income and over 70 percent of population The problem of land use, therefore, is the discovery of a synthesis between man and nature and the problem of land reforms is the discovery of a synthesis between man and man. In Indian conditions, it is only the ownership of land which can provide a minimum of social security and raise the social status of the under-privileged in the rural economy Many Asian countries, notably Japan and South Korea have made spectacular progress in agricultural production and productivity with family holdings of five hectares or below. Given the input required for intensive cultivation, there is no reason why it cannot be done in our country. The land ceiling laws were first initiated in 60s which were thoroughly revised in 70s According to an estimate made by the Planning Commission on the basis of the data on 16th round of N S S (1960-61) and 26th round of N.S.S. (1971-72), an area of 88.77 lakh hectares and 48.08 lakh hectares respectively should have been made available as surplus. Computing on the basis of the data of the agricultural census 1970-71 and 1976-77, 121.05 lakh hectares and 88.84 lakh hectares respectively should have been available as surplus. The declared surplus land, being only 31 lakh hectares, is much less than the expectations. It is, therefore, for consideration whether a further reduction in the level of ceiling applicable to the different categories of land could be introduced It is suggested in view of the fact that the National Guidelines formulated in the year 1972 had a tacit understanding not to revise them before 10-12 years. Now, a time has come for their reconsideration in view of the technological advances made in recent years

The National Guidelines

The 1972 National Guidelines laid down that the best category of land in a State with assured irrigation and capable of yielding at least two crops a year should have ceiling within the range of 10 to 18 acres taking into account the fertility of soil and water conditions

Allowance may be made for land irrigated from private sources and capable of growing at least two crops in a year by equating 1 25 acres of such land with 1 acre of land irrigated from public sources and capable of growing at least two crops in a year. The ceiling for such land irrigated from private sources shall not, however, exceed 18 acres

The term "irrigation from private sources" shall mean irrigation from tubewell or lift irrigation from a perennial water source operated by diesel and/or electric power

There will be no reclassification of land falling within the categories referred to in clauses (ii) and (iii) below for the purpose of the ceiling law consequent upon the completion of a private irrigation scheme subsequent to the 15th August, 1972

(ii) In the case of land having assured irrigation for only one crop in a year, the ceiling shall not exceed 27 acres

(iii) For all other types of land the ceiling shall not exceed 54 acres In areas where there is potential for sinking tubewells, the ceiling for dry lands may be kept below 54 acres under the discretion of the State Government

The rationale for making distinction between irrigation from public sources and private sources is that while in the case of former, the land-owner has to pay only water charges, in the latter case, he has to meet not only the capital cost but also the recurring cost of maintenance and operation of irrigation source If the principle of upgrading the cultivation of land on completion of a new irrigation project is accepted in the case of private irrigation work, it would act as a disincentive to future private investment in irrigation However, in certain areas, like alluvial plains of the north and the deltas of the large rivers where ground-water resources are plentiful, private irrigation, particularly from tubewell, is more efficient as it is more assured than canal irrigation The timely supply of water is a pre-requisite for the cultivation of high yielding varieties of crops and the adoption of better farming practices A large number of private irrigation sources have been financed by institutional credit on easy terms, including subsidies A spectacular progress in the exploitation of ground-water resources makes it desirable to put some check on its over-exploitation Besides, there are certain practical difficulties in fixing ceilings on the basis of the fact whether or not water is available from a private irrigation source for growing crops It is hard to explain fixing of ceiling limits for the persons holding land with assured irrigation with different sources It is, therefore, for consideration whether the concessions admissible to private irrigation schemes, completed subsequent to 15th August, 1972 for not reclassifying the land, should be withdrawn

At present, only those lands are treated as irrigated which are physically irrigated and are recorded as such by the reviewing machinery Many cases have come to notice where the proper record of irrigation has not been entered in the records and the land which is physically irrigated has been shown as unirrigated or partially irrigated The irrigation projects constructed with public funds stipulate command areas which have got a potential of having two assured irrigated crops/one crop. In all fairness, the ceiling laws should be made applicable to all such lands falling in the command area, whether the physical irrigation is there or not. The land falling in the command area should be categorised as irrigated land after proper identification by a competent authority. The land falling in the command area gets the benefits of canal system, tanks etc indirectly also as the water table of the land goes up making the irrigation through tubewells/-dugwells more convenient and dependable It is suggested that this land should be categorised as irrigated land though the equation 1.25 acres of land irrigated from private sources with one acre of land irrigated from public sources could be maintained There is a tendency with big land-holders not to use available canal water for two crops and thus do not make the optimum use of the scarce water to save their land from the operation of ceiling laws. The fact is that they are not able to manage big land-holdings alongwith two assured irrigation crops The result is that they not only do not make use of the available water but also make the country poorer to that extent Had this water been used in the field, it would have generated more crops and all-round development So, it is necessary that all such lands having a potential should be categorised as irrigated land and ceiling laws be effectively implemented.

The above suggestions, if implemented sincerely and vigorously, may not bring spectacular results but will lead to generate more equitable distribution of land as a resource amongst the rural population It will generate more faith and confidence of the people in the laws of the land which we very badly need today □ □ □

(Courtesy : Kurukshetra)

(Contd from page 10)

The Task Force on Agrarian Relations made a significant observation in this context–"In our view a certain degree of politicalisation of the poor peasantry on militant lines is a pre-requisite for any successful legislative-administrative action" for the implementation of land reforms But how is the poor peasantry and the landless farm workers to be politicalised on militant lines is a question which the Task Force was obviously in no position to answer The answer has really to be found in the actual militant struggles of the landless and the land poor It is to be found further in the response of the political and administrative authority towards these struggles which is found to be inspired by law and order norms rather than purposeful social objectives It will actually require a mass popular movement in support of the struggles of landless farm workers and poor peasants and protection from repressive organs of the state to put land reforms on the agenda. □ □ □

(Courtesy : Kurukshetra)

Planning strategy calls for a review

Dr. Radha Raman Singh

In this article the author criticises the strategy so far followed by the Planners, saying, that the planning exercises have not yielded the desired result. However, he agrees with the fact that the pattern of agricultural production has been diversified due to the effects of Green Revolution; and that the share of industrial production in the Gross Domestic Product has marginally increased. The author expresses his happiness at the performance of the services sector, as the principal sector of the economy. Though all these look soothing, the overall picture of the economy poses serious problems, he says. To overcome these problems the author says that there is a need to re-examine the planning strategy.

AFTER ABOUT FOUR DECADES OF PLANNED development efforts, when we make an indepth enquiry into the nature and dimensions of the emerging socio-economic scenario, two facts stand out one of our great achievements in terms of growth, modernisation and sophistication and the other of our great failures in terms of meeting adequately the goals of social justice and both are so keenly juxtaposed to-day that it has become the need of the time to make an objective assessment of the suitability of development strategy adopted so far by our planners. In spite of the massive development outlays and impressive increase in production recorded in various sectors, the socio-economic status of a vast majority of India's teeming millions has deteriorated qualitatively and the Government and the planners still find to their discomfort that the strategy of Indian planning has hardly generated development stimuli and culture all over the economy Though the gains in certain sectors have undoubtedly been tangible but it necessarily lends itself to quantification in relation to the value judgement regarding the changes in productive and social organisations which are key to development This can be analysed by studying the impact of planning process over such a long period on macro socio-economic parameters like national income, savings and investment, occupational pattern, levels of living, unemployment and underemployment and judgement can be pronounced on whether the Indian economy has, today, acquired the status of being a self-propelling and self-reliant one? If not, it becomes obvious that somehow, the development paradigm and planning strategy have basically gone wrong or that its execution has been lacking accuracy and perfection The emerging dimensions reveal that the Indian economy is still a backward agrarian economy and the planning exercises have not been positively effective in shaping it in the desired direction and up to the expected level and as a result have given rise to poverty, unemployment, inequality and distortions in the socio-economic environment Now, when the Eighth Plan is under preparation, there is an urgent need to re-examine the development paradigm and the planning strategy and make them appropriately suitable to the needs of the Indian economy and aspirations of the teeming submerged millions of the nation

Grave crisis

The emerging socio-economic scenario of the country confirms that the nation confronts with the grave crisis and difficulties with the problems of poverty, inequality, unfavourable balance of payments, mounting unemployment, record

budgetary deficits and about 20 per cent rise in consumer prices, whereas on the other hand, the Planning Commission and the authorities concerned seem to be quite satisfied with the present rate of growth in national income which is around 5 per cent and are busy in making Plan preparations to push it up to 6 per cent during the Eighth Plan period But the hard facts are different which is apparent from a close look of the real production trends in the sphere of the material production and the emerging socio-economic dimensions that have taken place during the past four decades of planned development efforts and these facts strictly warn the planners that option for 6 per cent path on the same broad strategy and policy without tangible results in real terms would make the situation more explosive

Agricultural sector

Let us begin with agricultural performance During the past four decades, a number of changes have taken place in the pattern of agricultural production. and the agricultural sector has certainly been diversified due to the effects of the Green Revolution, but still the country has not been able to cross the barrier of 170 million tonnes of foodgrains production The most startling conclusion that emerges from the analysis of the recent official agricultural statistics and the mid-term Plan appraisal is that during the eighties, the growth in foodgrains production has been out placed by the increase in India's population In 1983-84, the year of peak production registered, foodgrains output was estimated at 153 million tonnes and between 1984-85 and 1988-89, foodgrains output appears to have increased from 146 million tonnes to around 170 million tonnes Thus, over a period of five years with two peak production years i e 1983-84 and 1988-89, the national foodgrains output is found to have risen by only about 10 per cent yielding a compound rate of growth per annum of quite less than 2 per cent which is less than the population growth of 2 2 per cent Thus, the economy appears to be far from the targetted growth rate of 5 per cent for foodgrains and the overall target of agricultural growth equal to 4 per cent per annum. The ultimate reality is that the growth rate of population has exceeded well the rate of growth in foodgrains and even overall rate of growth in agriculture too and thus, the country is back where it was 20 years ago before the launching of Green Revolution

Further, in spite of the diversification proclaimed by the authorities, the real picture does not seem to be rosy in the agricultural sector The mid-eighties have seen Indian agriculture slide into a profound crisis marked by rising costs of cultivation, increasing dependence on expensive resources, glaring disparities in the regional distribution of agricultural growth giving rise to regional imbalances, increasing discontent of the middle and small farmers and stagnant or erratic crop yields. The only alternative to solve the problem seems to be to move towards the combination of low-cost agriculture and social reform which means a serious assault on poverty and a substantial diversification in agriculture, Therefore, the challenge in the 90's is basically to diversify the spatial dimension of agricultural growth in much wider setting, to improve delivery systems of inputs and marketing and procurement of produce, to update land records and implement the land reform legislations particularly in the eastern region where still 40 to 60 per cent farmers are small and marginal, accounting for only two-fifths of the land and the fairly widespread practice of share cropping and tenancy poses institutional constraints in delivering the support packages to the actual tillers, to work out administrative modalities to deliver credit and other inputs to the actual tillers of the land by implementing such arrangements at the village level and to involve the village community in activities to increase agricultural productivity and generation of more employment opportunities by inducing local issues in policy-decisions and making foolproof arrangements within the framework of agro-climatic regional planning. This will naturally involve reversal of priorities, abolition of subsidies, encouragement of cropping patterns which mesh into micro-environment, which, in turn, implies rolling back to the 'new agricultural strategy' and giving the rural poor primacy in the re-juvenation of Indian agriculture

Industrial sector

In the industrial sector, the available figures indicate that the annual rate of industrial growth, since 1983-84, could not have been more than 7 per cent in average, though, as claims the mid-term survey of Seventh Plan, industrial production had increased by 9.7 per cent and 9 per cent in 1985-86 and 1986-87 respectively. But in 1987-88, it was only 7 7 per cent and it has been slightly more than 9 per cent in 1988-89, as per the Report on Currency and Finance of RBI published recently It is a fact that in the organised industrial sector, whatever the disputations concerning the new index and its propensity to show a higher growth rate than is really the case, the trend of achievement has been between 6 to 8 per cent in average which is much higher than the rate achieved during the previous four Plans. This has resulted due to the fact that the overall industrial growth hinges largely on the satisfactory performance of infrastructural industries which have a weight of about 29 per cent in the general index. The average composite index of production of six infrastructure industries have recorded a higher rate of increase of 7 5 per cent in April-November 1988 than the increase of 6 8 per cent witnessed during the same period in 1987 But among the manufacturing industries whose growth has been significant, mostly have been in the field of new. lines of consumer durables and electronic goods whereas in mass-demand wage-goods, supplies are still scarce. Not in necessities, but in convenience goods and luxuries, the makets are a bit flush indicating that there is a selective consumer goods boom in the economy. But in spite of these

features, in real terms, picture is hardly any rosier as the growth rate of less than 2 per cent in agriculture and an average of 7 per cent in industry would, in the aggregate, give a growth rate of just about 3 per cent annually for material production in the country while the authorities claim to have achieved an annual growth rate of 5 per cent in the national income in the preceding years and aim to raise it to 6 per cent during the Eighth Plan.

Service sector

But the fact remains that in spite of such dismal pictures in the field of real material production, what is the mystry behind such an encouraging state of affairs being proclaimed by the Planning authorities ? The reality lies in the vastly expanding pace of the service sectors. This sector has been moving up in the past few years at an overall annual rate of growth of 9 to 10 per cent Among the activities of this sector, important are: defence and public administration, transport and communication, trade and tourism, banking and insurance and other such services mostly in the self-employed, informal areas and urban informal goods and services sectors The high rate of growth in these activities has been generally induced by large scale Government outlay and mostly through deficit financing and in spite of less than the targetted performance in the field of material production in agriculture and industry, the overall rate of growth has gone up to 4 5-5 per cent and planners are optimistically preparing to force the economy into a 6 per cent rate of growth An analysis of the share of different sectors in the GDP during the four decades since independence indicates that in the early '50' s, agriculture contributed as much as 60 5 per cent of the national output, industry contributed 24 4 per cent and the share of the service sector was 15 1 per cent Today, the share of industrial production shows marginal increase being 27 per cent only and the contribution of agriculture has come down to 33 per cent but the share of services sector in GDP has gone up to 40 per cent and if this trend is continued by not interfering in the existing planning strategy and economic policy, the services sector would cover half of the national output whereas the agricultural and industrial sectors would continue to limp or half-limp

The emerging features of the Indian economy are by all means, like that of a developed economy in which the services sector functions as the principal sector of the economic activity Though it looks soothing for the authorities as it functions for them as a face saving device, but the overall picture of the economy presents harsh contradictions posing serious problems Evidence indicates that in advanced countries, the rising share of service sector in GDP is accompanied by a corresponding rise in the proportion of the working forces absorbed in such activities, but in India, less than one-fifth of the working population is engaged in this sector whereas still two-third, like the early '50's are engaged in agriculture and allied activities. On the other hand, between early '50's and mid-'80's, the per capita income in real terms of these two-thirds moved up by barely 5 per cent and about 85 per cent of the increase in farm output over this period took place in only 15 per cent of the agricultural holdings giving enormous gains to the rural elites from crop-specific, area-specific and region specific agricultural development. Such a skewed distribution of income growth in the farm sector poses problem for the industrial sector also because the little or no rise in the real income of the two-third of the peasantry, due to unfavourable land relations, has remained unattached with the industrial growth and the expanded market mechanism. Over the years, as a result, the principal impulses of industrial expansion has been generated by government-induced supplies and has depended heavily upon public investments. Industrial productions have expended mainly in the comforts and luxury areas whereas unemployment continues to rise as about 40 million have registered their names with the employment exchanges representing only the urban fringe while a vast number of unemployed and under-employed of the country-side do not know that they are the citizens of an independent country having the ideals of a welfare state.

Though the planning authorities show a very encouraging picture of the position of savings during the past years by estimating it to be equal to 22 per cent of the GDP and expect to raise it to the tune of 27 per cent during the Eighth Plan period, but in real terms, net savings show a static state of 12 to 14 per cent, gross savings at 18 to 20 per cent and the net inflow of capital around 2 to 3 per cent The gross capital output ratio seems to be much higher being around 5·1 and this level has been generally static The proclaimed rate of growth in national income around 5 per cent has been sustained under the conditions of nearly 6 to 8 per cent annual growth of inflation rate and high and growing trade deficit. The growth rates of internal and external debts are high from all practical parameters, exchange reserves have also witnessed some drop and employment growth in the organised sector has trickled to one-half to one per cent which is well below the growth rate of urban population and labour force Thus, in spite of the fact that in some aspects the difficult phase of India's development seems to be over as the country has already developed a potential base for a take-off, but still it is facing the most difficult phase in some other aspects and at present the development strategy seems to be at cross-roads This is because, the continuing strategy and the results thereof seem to have pushed up the number of those living below the poverty line, unemployment picture is becoming grim, rural distress is continuing on an upward trend, and the symptoms of inequality have become more obvious and conspicuous. These are the major and emerging challenges of the Indian economy which need learning by doing process in furture plan formulations and close scrutiny of the planning strategies and priorities of the Eighth Plan.

Re-examine planning strategy

After four decades of planned development efforts since independence, India has the world record in the number of poor people in spite of the largest number of special anti-poverty programmes and the poor are primarily landless, casual labourers, marginal farmers, rural artisans or the other marginal self-employed who lack employment for a large part of the year and earn too little for the work they do According to the latest NSS data, in 1984-85, there were 273 million people below the poverty line, or approximately 45 5 million households, having around 150 million adults in the 15-59 age group The most important programmes like NREP and RLEGP together, have generated between 500 and 700 million mandays of employment since 1980-81 which apparently seems to be much impressive. But when this is divided by the number of poor, it works out to an average of only three to five days of work per person in a year which can hardly make an impact on their employment or earings. The IRDP, though claims much and has helped the planners to bring down the proportion of the poor below poverty line to 37 per cent at the end of the Sixth Plan and encouraged them to proclaim to bring down this proportion to 26 per cent up to the end of 1989-90 i e the terminal year of the Seventh Plan But on the contrary, the field studies of the experts and the institutions have shown a negative picture and have boldly denounced the exaggerated claims of the authorities and have proved ineffectiveness of these anti-poverty programmes

The adverse dimenions of the emerging problems have taken place due to the unsuitable strategy of he previous plans in which planners have always been preoccupied with 'target settings' in the plans very often neglecting the assessment of the outcomes and effectiveness of the on going strategy of development on the areas, sections and sectors of the economy It is apparent from the examination of the past planning practices that during the whole period of planning, there has been a strong belief among the planners and the policy makers that the various income groups have a common interest in rapid economic growth and a strong and independent self-sustaining economy, as the benefits of this growth eventually will be shared by every body This kind of ideology has also been very convenient for the alliance of interest groups that rule India Therefore, despite all the rhetoric, the problem of poverty and unemployment have mainly been tackled through a number of ad hoc measures and these have never been made an integral part of the planning methodology and strategy In course of implementation, these measures have always suffered from the problems of larger leakages, inadequcy of funds, lack of flexibility, co-operation and co-ordination and people's involvement, corrupt practices in selection of beneficiaries, frequent channelisation of the benefits towards the favoured groups of the rural society due to defective administrative structures, decision-making procedures and incentives; general orientation of the bureaucracy in place of specification; indifferent rather antagonistic attitude of the bureaucrats associated with the implementation aspect of the measures, lack of accountability of the authority associated with the programmes and overall use of these programmes for personal or political gains by officials, politicians, power-brokers or established interest groups. These trends are basically due to the wrong conceptualisation of the development paradigm and adoption of unsuitable planning strategy during the planning period The planners must realise that economic growth along the present pattern is not sufficient to absorb all the unemployed and under-employed in the expanding modern sectors and even a much accelerated growth rate will not suffice This is likely to create an even greater differentiation between those who participate fully or partly in this expansion of the modern economy and those who will be left out i e , the bottom 25 per cent of the population and if the country intends to enter the 21st century without re-examining and re-moulding the planning strategy and aspires to become a more important regional and international power, it will be only at the cost of the teeming millions of the society In reality, the dream of the nation can be fulfilled only with 800 million educated, healthy and active inhabitants and to achieve this stage, honest and sincere re-examination of the planning strategy, suitable change in the priorities and effective implementation of the Plan will earnestly be required.

Among the various components giving strength to the process of economic development and diversification, development of export trade and expansion of export earnings, assume strategic importance In India, the strategy, so far adopted in this context, has created the problem of unfavourable balance of payments and in turn, has stuck the national economy in a vicious circle In spite of the numerous efforts of the planners and policy makers, exports have remained where they were in the early '50's i.e , about 5 to 6 per cent of the national income whereas the imports have jumped from the level of 4 per cent of the national income in 1950-51 to nearly 10 per cent in 1987-88 The policy of liberalisation of imports has given rise to elite-oriented economic activities. In order to gain in exports, liberal imports of capital, technology, equipment, maintenance, spares and raw materials have resulted into export induced import rush but still exports have remained more or less stagnant This is because exports can expand only if the unit cost of production can be brought down by inducing economies of scale; economies of scale can take place only if production increases in response to larger demand and our exportables get the competitive edge in the international market But still, in India, exports await scale of economies and scale economies await exports and the result is the wider trade deficits. The reality is that the invisibles have till now, enabled our economy in meeting the crisis but with the present tune of 45 thousand crores external borrowings and the resulting debt service burden approaching 30 per cent of export earnings,

the situation seems to be desperate and gloomy.

It looks very peculiar and rather travesty of the fact that while India had set out with the specific aim of building a heavy industrial base for the economy first for economic transition in line with the development paradigm formulated by P.C. Mahalanobis, but has failed utterly and today it has remained as the importer of steel, machinery, chemicals, autos and ships from small countries like Japan and South Korea who have already completed their economic transition in the shortest period without any such pretensions. While in 1987-88, South Korea fetched about 64 per cent of export earnings from heavy industrial products and capital goods industries, 23 per cent from textiles exports and even less than 7 per cent from primary products, on the contrary, India could fetch even less than 12 per cent from the export of iron and steel, chemicals, and allied products and engineering goods and the agricultural products, minerals, ores and light manufactures including handicrafts accounted for 50 per cent of the total exports. Thus, the favoured heavy industries sector and the capital goods sector of the Indian economy has not succeeded in capturing the foreign markets in spite of huge investments and has deceived the economy by failing in boosting the exports. Our strategy of growth-led export as against the export-led strategy of growth of South Korea and Japan has posed a vexed mix of restrictions and irrelevant liberalisations hitting adversely the cost and quality competitiveness of our industrial and export structure The inflow of enough foreign aid to meet the large part of its need for capital goods has made possible for the planners to ignore the world market and the protection that they have given to the home market have made producers unmindful of costs and have permitted the government to take decisions on 'socialistic' or 'egalitarian' grounds and this has built inefficiency into the very structure of the economy Thus, while on the one hand, the liberal inflow of foreign aid has played a debilitating role in India's economic development by helping to perpetuate slow growth and inefficiency, the growth-led export strategy has brought every impediment to the international competitiveness of the economy and these are the off-shoots of our unsuitable development paradigm given by Mahalanobis and the corresponding ineffective planning strategies followed by our planners ever since the period of Second Five Year Plan These need now thorough re-examination in the light of the emerging socio-economic scenario and a shift in the structure, core and vision of development by altering radically the planning paradigm.

Thus, the summary assessment of the emerging socio-economic dimensions of the Indian economy confirms that now it is no longer an underdeveloped but a poor, industrialised one. It is, though, a fact that some of its achievements are praiseworthy as from being a chronic food importer in the fifties and sixties, it has attained the stage of near self-sufficiency in cereals and has become exporter of other agricultural produce. In the field of science and technology, its achievements are the matter of envy for most of the developing countries and agriculture as well as the industrial sectors have attained wide ranging diversifications. But still people at large are not happy with the results mainly because the development strategy has created a sort of dual economy in the country and we have not achieved that much in line with the set objectives. The diversified industrial sector has failed to impart dynamism to the national economy; the development efforts have not made much impact on the basic structure of the economy and in turn, have remained ineffective in making a dent on the main problems of backwardness, our growth rate has been still among the ten slowest in the world; the self-sufficiency in the production of capital goods that we aimed at from the Second Plan, has eluded us, our imports have been spiralling while the capacity established in the country lies idle; income differentials have increased dramatically because of the black money which generates now a third of India's real GNP; our policies have pampered producers and penalised consumers and programmes have helped the vested interests and frustrated the poor by aggravating the dimensions of poverty and unemployment which have posed serious challenges before the nation and the authorities concerned. Therefore, an entirely new approach to planning together with a thorough overhaul of development strategy are necessary while setting the priorities and objectives of the Eighth Plan

The above analysis unmistakably comes to the conclusion that the strategy of Indian economic development has gone largely in wrong direction and the fate of our plans has turned into a composite error in place of synthesis and as a result, the country has got the dubious dinstinction of being classed among the worst poverty-stricken nations of the world The main reason for the paradox of poverty amidst plenty of natural and human resources lies in the inappropriate development paradigm, the legacy of P.C Mahalanobis, so far pursued and the wrongly directed planning strategy so far adopted and implemented by the planners Therefore, the urgent need of the time is to re-examine the existing development paradigm of the country and after a thorough overhaul and modification, reformulate and boldly adopt an India-derived, India-biased and India-directed integrated development planning strategy coupled with the universal and functionally effective Gandhian core-spirit and motivation The new development paradigm must have abolition of shortages, creation of adequate employment opportunities in the light of the expanding population, eradication of poverty, wiping out rural-urban disparities and minimisation of inter-personal, inter-sectional and inter-regional inequalities and imbalances and above all, creation of an egalitarian society as the central point but simultaneously, must

improve suitably the productivity, efficiency and capability creation aspects of the modern sector to increase competitive edge in the world market and secure alround development of the national economy. The perspective paradigm, must have the poor as its central and not as its residual concern and suitably change the priorities, strategies and investment patterns Though this restructuring would be rather painful as many of the accepted goals might conflict with new strategies and instruments of planning for higher balanced growth, but in the light of the seriousness of the emerging socio-economic crisis, the only alternative is a rapid change in the development strategy and integrated capturing of the message of Gandhi in the perspective development paradigm

For making our development mass-based and people-oriented and making the vast ocean of unemployed and the masses of the poor viable partners in the core of the development process, the development paradigm of Vakil-Brahmananda with wage-goods strategy seems to be more realistic as against the so far pursued capital-goods strategy of P C. Mahalanobis because the main components of this paradigm presents a scientific and rational reformulation of Gandhian way of development processes and prescriptions and keeps in the core the Gandhian concepts of 'production by masses' in place of 'mass production' 'Swaraj', 'Sarvodaya', 'self-sufficient village economy', 'breed labour', 'rural development', 'decentralisation', rural-urban integration and above all, development from below strategy of planning and policy. The key elements of the wage-goods strategy are designed to deal with poverty, unemployment and disparities along with the viable element from the balance of payments and fiscal angles But the transition to this strategy would call for great care, increased overall efficiency, strong political will and true reconciliation of economic and social vision of Gandhi and Nehru and setting up the priorities and other development modalities accordingly It is only then that the nation can assure better future to the teeming millions without sacrificing the benefits of the present day modernisation process □ □ □

(Contd. from page 5)

for distribution among the poor, then it appears that much more land has been distributed In fact at several places which have witnessed a lot of land distribution activity, the resort has been mainly to the village community land while leaving the ceiling land relatively untouched When a lot of cultivable extra community land is available, no problem is caused, but this is not the situation in most places So the distribution of land is at the expense of important community needs or else the land distributed is not really fit for cultivation, being best left for grazing or forestry. This leads to increased soil erosion and related ecological ruin. The person who gets the land also does not really benefit, as he cannot get much out of this land even after having worked hard on this land This damage is particularly acute in ecologically sensitive and fragile areas such as hilly areas and desert areas

What must then be done

For fully realizing the actual potential of obtaining land for redistribution under ceiling laws, it is important that too many concessions and exemptions that have been given under the various ceilings should be removed, and in addition strong action should be taken against those indulging in benami transfers, misreporting of land and misuse of exemptions

Before concluding, we will like to mention two important studies on land reforms as these are specially revealing about what has gone wrong with our effort in this important field A recent study spread over 15 villages of six districts in Bihar conducted by Prof Pradhan H Prasad revealed that as per the existing laws 21 per cent of the land in these villages is surplus, but only 9 per cent of this real surplus, (or 1 8 per cent of the total land) has been actually acquired and distributed

Secondly, we refer to the Mangal Dev Visharad Committee Report which reviewed the first 13 years of the implementation of ceiling legislation in U P During this period 2 lakh acres of land were taken over by the Govt , of which 1 10 lakh acres were actually distributed, of this 20000 acres were given to gram sabhas and various institutions and not to individual allottees 76000 acres were distributed in the form of temporary settlements The allottees in most cases being big land-owners themselves or their relatives and friends who were given back land as temporary settlements for an initial period of 3 to 5 years

Apparently there has been much deception in the name of land reforms This is exactly where a mighty blow has to be struck, so that land-reforms no longer remain an area of somehow fulfilling official policy on paper but actually become a bold and vigorous effort for fighting poverty in our country □ □ □

Iodisation of salt by 1992

The entire edible salt in the country is to be iodised by 1992 in a phased manner. A scheme for supply of potassium/ calcium iodate or such chemical used for iodisation of edible salt has been formulated. However, pending arrangements for supply of potassium iodate, a subsidy by way of reimbursement of the cost of the chemical used for iodisation of salt is in operation

The present annual installed capacity of the iodisation plants is sufficient to meet the requirements of edible salt in the country. □ □

Strategy to enhance fish, in particular, Prawn production in India

Dr. S.S. Khanna & M.C. Deviah

Exploitation of marine fish resources and culture of prawns in backwater areas are two promising areas for increasing our export potential as well as providing nutritious food to the fish eating people of our country. In this direction, there is a need to reorient our strategies and priorities, say authors. In fact, the authors want the governments both at the centre & state to create a seperate Ministry for fisheries.

FISH CONSUMPTION IN WESTERN SOCIETIES has in recent years increased considerably and will continue to rise according to most marketing studies According to FAO projections, demand of fish and fishery products will exceed the supply by 5 million tonnes by 2000 A D This is mainly due to increased health consciousness. Fish fulfills these requirements excellently Moreover, widely, published studies indicate that consumption of fish can significantly reduce the chance of coronary disease in human beings.

There is so much of sea food, in such a great variety in the seas of the world that it is often said that if the whole of human population were to switch over to fish for staple diet, we could survive for millions of years even at the present rate of growth in population Fish resources are inexhaustible If we do not exploit, they will be lost

The total fish resources in India is estimated to be about 9 million tonnes,out of which the production at present is little over 3 million tonnes per annum During the period 1980-86 world production of fish and fishery products registered an average growth of 4 5% per annum During this period, the average growth of fish production in India was 5 58% per annum However, in the Seventh Plan, the growth rate has been about 3%. In the Eighth Plan, the growth rate should be about 6 to 7% in order to catch up with the anticipated production target.

Status of Fisheries in India

(i) India is one of the major fish producers in the world Presently, it contributes a little over 3% of the total world production of 92 million tonnes. India's per capita consumption of fish is 3 2 kg while the world average per capita consumption of fish is 12.1 kg and Japan's average is one of the largest at 86 kg. All sorts of species from the dollar spinner prawans to the cheap trash fish are our fishery resources. By trade, fishermen are the rightful owners of these species, whose number is little over 70 lakhs in the country. (The table given at the end of the article gives an idea of the state-wise production of fish both from marine and inland sectors Central and State Govt. Fisheries departments, Research Institute help the fishermen to multiply his fish resources

(ii) In order to achieve two main objectives viz increasing the exports of marine products and providing fish for domestic consumption, surrey of resources, infrastructure R&D services, adoptation of high technology for capture and culture of fish, marketing, fisherman welfare etc have to be mobilised adequately and efficiently

Deep sea fishing vessels

(i) It seems unbelievable that out of the total marine fish production in the country, only 1% is contributed by the deep sea fishing vessels Why it is so is still a debatable issue It is well-known that in order to exploit the deep sea fishery resources to its optimum capacity, about 1500 deep sea fishing vessels are required, out of this, it is planned to introduce 500 deep sea vessels by the end of the Seventh Plan period However, the number of vessels now in operation are 157

(ii) The 300 mile Indian EEZ covers an area of nearly 2 02 Sq Km with an estimated yield potential of 4.47 million tonnes Of this, nearly 50% is reported to be within the coastal area upto a depth of 50 m. about 1 71 mt in the off-shore areas between the 50 m. and 200 m depth zones, and the balance in the Oceanic areas beyond 200 m

(iii) The deep sea fishing policy of the Govt. of India has gone through revisions, improvements, additions

over the past few years. New vessels may be acquired by any Indian entrepreneur

(a) by placing orders on Indian shipyards
(b) by import under the General Import policy
(c) by import under the 100% Export oriented unit scheme
(d) Joint venture with foreign technical/financial collaboration

(iv) The vessels to be acquired should not have devices for shrimp fishing and they should not be fitted with riggers "Bull" or Pair trawling will also not be permitted There are, of course, other conditions which are commonly followed in case of foreign collaborations What is now required is a simple quick and fool-proof procedure to hasten the entire process of issuing licences until launching of the vessels A few suggestions in this direction are (a) critically ascertain the vessel delivery system in the Indian ship building yards in order to strictly follow "Pari Passu" condition or do away with it completely (b) Simplify the licensing procedure by adopting computorised system of evaluating the applications and making one Govt agency or body responsible for approving the project and relasing funds (c) Fix a time limit for not only clearing the applications but also for implementing the project (d) Introduce a special incentive scheme to encourage deep involvement of both the Industry as well as licensing authorities in a bid to reach and reap, the deep sea fishing zone quickly.

Infrastructure for deep sea fishing

(i) Without the land based infrastructure facilities, the transport system cannot work Similar to road and rail transport, ships also require a well developed harbour to provide safe berthing place, water and fuel, repair facilities, roads, buildings etc The fishing vessels, in particular, have greater needs of such facilities in order to save spoilage of fish before consuming and also to ensure proper hygiene at the fish landing centres

(ii) The fishing harbours are broadly classified into 3 categories (a) major fishing harbours having a draft of 3 mts. and above (b) minor fishing harbours mostly having a draft upto 3 mts and (c) small fish landing centres to accommodate the traditional fishing crafts.

(iii) Under these categories, there are 4 major, 13 minor and about 100 landing centres already available in the country besides many more in the process of construction Unfortunately, it is observed that the present utilisation of these harbours is not adequate nor enough care is taken to maintain them properly The suggestions therefore are whether one should go on constructing the fishing harbour without taking care of the issues raised or would it be advisable to evaluate the performance of the already constructed fishing harbours and ensure that the issues raised are taken care of simultaneously as the progress is made for constructing additional fishing harbours.

(iv) It is well known that the economy of a ship depends on the number of hours she has been sailing and not the number of hours spent in a harbour. This is true if the harbour is kept always ready to receive the ship, (fishing vessels) unload the catch and supply water, fuel, ice required for its immediate voyage. How do we ensure such un-interrupted service at the fishing harbours? First of all, there should be an independent whole time organisation to operate and maintain the fishing harbours This would mean creation of a Fishing Harbour Authority serviced by a team consisting of scientists and engineers. This authority should be vested with powers to operate and maintain all fishing harbours in the country and also be responsible to collect revenues and generate surplus funds in the long run to reinvest on further improvements in the fishing harbours The authority should also own and operate small and medium dredgers to take care of the yearly maintenance dredging wherever required. It should also ensure the hygienic conditions of shrimp processing and the quality control inspection system in the country to meet the International standards so that the consignment sent abroad to Japan, USA, and other countines is readily accepted and thereby strengthening India's export potential of marine products. At this stage, let us take a quick look at our export performance of marine products

Export of marine products

(i) The Seventh Plan target for Export of marine products from India is Rs 700 crores in value and 1,47,000 tonnes in quantity In the last 27 years, the export of marine products increased 117 times in value The table given below gives port-wise data of export of frozen prawns in 1986

Export of frozen prawns port-wise

Name of Port	*Value (Rs'000)*
Cochin	1365856
Bombay	371460
Madras	452024
Mangalore	108679
Calcutta	471371
Ratnagiri	3269
Goa	60199
Visakhapatnam	538500
Veraval	28008
Paradeep	223948
Tuticorin	4361
Porbandar	138805
Kandla	33309
Total	3799789

Source MPEDA (1986)

The point to be noted from the table is that Calcutta exported about Rs. 47 crores worth of frozen prawn in 1986. How is that possible? We shall answer the question when we discuss later the subject of Brackishwater aquaculture.

(ii) How do we propose to reach Seventh Plan target of earning Rs 700 crores in foreign exchange? A judgement on whether we should export most of the high class fishes and prawns or keep aside a portion

of it for domestic use at the cost of loosing the dollars should indicate our approach. To our mind, the balance of advantage in the present circumstances lies in earning the foreign currency and using it gradually in the task of import substitution of many other essential products in the country, one of the suggestions we propose in this direction is to increase the exportable marine products. How do we accomplish this? Supposing the deep sea fishing vessels are acquired and operated only under the existing two norms viz., (a) by import under the 100% export oriented unit scheme and (b) joint ventures with foreign technical/financial collaboration and waiving the "Pari-Passu" condition, one can expect better performance both in quantity and quality of marine products. Needless to say that adequate safeguards have to be built under the system with only these minimum essential conditions as required to fulfill the main thrust that is to increase the quantity and quality of marine products for exports. This is more so appropriate, in case of marine fisheries because the stocks are lost once for all if they are not exploited. The system can also be made totally indigenous with the technology transfer in course of time as the fish stock is in-exhaustible unlike the metals and minerals.

(iii) Next in the order of priority in the context of identifying the dollar spinning industry is prawn culture in brackishwater areas

Brackishwater aquaculture

A prawn produced is a dollar earned, if not now, soon this slogan will come true seeing the World's demand for prawns and the rapid progress made in some of the countries like Taiwan, China, Phillipines, USA in producing tonnes and tonnes of Prawns through culture methods. India too has the potential for producing prawns through coastal aquaculture. The potential is so large (as given in the table below) that India could become the leading country in the world if intensive and semi-intensive methods of prawn culture is adopted

Potential Brackishwater area available in the country and the areas actually brought under Prawn culture so far.

Name	*Potential area (Hectares)*	*Area under culture (Hectares)*
West Bengal	4,05,000	33,000
Orissa	80,000	350
Andhra Pradesh	1,50,000	120
Tamilnadu	80,000	50
Pondicherry	20,000	
Kerala	2,42,000	5,200
Karnataka	95,000	4500
Maharashtra	80,000	50
Gujarat	3,76,000	100
Total	15,28,000	43,370

Source MPEDA (1987)

It may be seen from the table that West Bengal has the highest potential sources for Brackishwater aquaculture (27%) and the area presently under aquaculture in West Bengal is also the highest among all the maritime States (76%). This answers the question posed elsewhere how prawn export from Calcutta touched Rs. 47 crores in 1986. The credit goes to Bengal prawn/fish farmers who did not waste time to realise the fruits of prawn culture in impounded brackishwater areas.

(ii) It is a fact that India has a vast potential for Coastal aquaculture and the prawn produced from these areas contribute largely to the country's foreign exchange earnings. What is then missing? Why are we producing about 20000 tonnes of prawns only through aquaculture while the possibility is of the order of culturing 1 to 5 million tonnes of prawns per annum depending on what technique we propose to adopt. We have three options to choose.

a- Traditional method of prawn farming
b- Semi-Intensive
c- Intensive

Category 'a' yields below 1 ton per ha category 'b' yields between 1 ton to 5 ton/ha. category 'c' yields above 5 ton/ha. In India, the prawn culture is largely under category 'a' while as in the South Eastern countries, it is category 'c'

(iii) It is quite obvious from the production data that prawn culture in India has not made a break-through mainly due to non-availability of proper technology on commercial scale for producing quality prawn seed, low cost feed, water management, infrastructure facilities etc. In the form of simple classification, the coastal aquaculture has two parts (a) Civil works such as construction of bunds, channels, sluice gates etc. and (b) scientific work for producing seed and to culture to full sized prawns taking care of all the parameters like salinity, Oxygen content, water management, mortality ratio, feed, harvest etc. This apparently calls for building up of a cadre of experts consisting of Engineers and Scientists. The immediate step to be taken therefore is to set up a separate organisation as stated above both at the State and Centre level to attend to coastal aquaculture with R& D back up. Next in need is to boldly admit that the technology know-how in our country for prawn culture is inadequate to be followed by transfer of technology from advanced countries in the field of acquaculture. As the process is continuing, the question of distributing the brackishwater areas to multi-national companies/ large Industrial houses, Fishermen cooperatives, State owned Fisheries Corporations and the rural fishermen population has to be carefully discussed and a policy applicable throughout the country should be arrived at. To oversee the progress and render technical guidence from time to time, the services of cadre of experts consisting of Engineers and Scientists as proposed should be made available free of cost to all those who take up prawn cultures. By This, present system of traditional methods of prawn farming should gradually change over to semi-intensive method throughout the country. This is the basic approach required with a view to converting prawn culture into a dollar spinning Industry in course of time

Economics of prawn culture Industry :

(i) First of all, the country can earn additional foreign exchange of Rs 10,000 crores and more as the available Brackishwater area is converted into productive prawn culture through semi-intensive and intensive methods

(ii) MPEDA (The Marine Products Export Development Authority) has shown the economics of shrimp farming in 1 Hac. area as follows —

(1)	Capital Investment	Rs 75,000
(2)	Recurring cost for the 1st crop	Rs 17000
(3)	Total principal amount required for starting the prawn culture	Rs 92000
(4)	Income from first crop	Rs 52500
(5)	Recurring Expenditure for second crop	Rs 10500
(6)	Balance (4-5)	Rs 42000
(7)	Income from the second crop	Rs 22500
(8)	Gross Income at the end of 2 crop in first year (6+7)	Rs 64500
(9)	Deduct repayment of 1/5th of the principal amount	Rs 18400
(10)	Deduct interest @ 12 5% on the principal amount per annum	Rs 11500
(11)	Deduct operation cost for the first crop of next year	Rs 17000
(12)	Deduct maintenance of Pump and Bund @ 5% of the capital investment of Rs 75000	Rs. 3750
(13)	Annual lease rent	Rs 1000
(14)	Net profit at the end of 1st year (8−(9+10+11+12+13)	Rs 12850

(iii) The other benefits are large scale employment generation from primary prawn farmers level to skilled and semi-skilled workers as the Industry picks up momentum

Planning Process

We have extensively discussed so far how to increase our fish and prawn production (both capture and culture). The problem is not that simple as written on paper To start with, systematic planning keeping in mind the reources available, removal of constraints before launching the project, and timely adoption of delivery system etc should go into the planning process The present system of the States not giving adequate priority to Fisheries and the Centre dividing the responsibilities of Fisheries development into two Ministries (Ministry of Agriculture and Ministry of Food Processing Industry) and finally the Fisheries not enjoying the status of either Agriculture or Industry are in fact examples of bad planning Better late than never ' Fisheries need greater administrative financial and organisational support. To take care of these aspects creation of a separate Ministry of Fisheries in Government of India and in States has to be the first agenda item for favourable consideration by the Governments.

Epilogue

Exploitation of marine fish resources, and culture of prawns in backwater areas are two promising areas for increasing our export potential as well as providing nutritious food to the large fish eating population in the country. In this direction, there is need to reorient our strategies and priorities as stated in the paper

Annexure I

Fish Production-Marine

(ooo tonnes)

States U Ts	End of VI Plan	1988-89 Ant Ach	1989-90 Target
1 Andhra Pradesh	132 72	141 00	144 00
2 Gujarat	287 02	314 00	320 00
3 Karnataka	168 04	156 00	159 00
4 Kerala	367 35	334 00	340 00
5 Maharashtra	331 16	347 00	354 00
6 Orissa	46 07	55 00	56 00
7 Tamil Nadu	265 43	262 00	267 00
8 West Bengal	32 00	62 00	63 00
9 Andamans	6 03	10 00	10 50
10 Goa	35 39	45 00	46 00
11 Lakshadweep	6 31	7 0	7 50
12 Pondicherry	20 72	22 00	23 00
Grand Total	1698 28	1755 00	1790 00

Annexure II

Fish Production-Inland

(OOO tonnes)

States/U Ts	*End of VI Plan*	*1988 89 Ant Ach*	*1989-90 Target*
1 Andhra Pradesh	101 60	120 0	127 00
2 Assam	48 17	60 0	63 00
3 Bihar	110 00	152 0	160 00
4 Gujarat	23 81	27 0	29 00
5 Haryana	10 01	18 0	19 00
6 Himachal Pradesh	2 70	4 0	4.30
7 Jammu & Kashmir	9 99	12 0	13 0
8 Karnataka	39 63	41 00	43 0
9 Kerala	27 60	30 0	31 0
10 Madhya Pradesh	24 01	53 00	56 00
11 Maharashtra	28 97	39 00	41.00
12 Manipur	5 00	7 00	7 50
13 Meghalaya	0 72	1 00	1 50
14 Nagaland	0 45	0 60	0 65
15 Orissa	51 89	68 00	72 00
16 Punjab	3 50	6 0	6 50
17 Rajasthan	16 00	18 00	19 00
18 Sikkim	neg	neg	neg
19 Tamil Nadu	160 00	145 00	153 00
20 Tripura	10.00	15 00	16 00
21 Uttar Pradesh	49 69	90 00	95 00
22 West Bengal	369 51	465 00	492 50
23 Andamans	0 001	—	—
24 Arunachal Pradesh	0 33	0 60	0.65
25 Chandigarh	0 03	neg	neg
26 Delhi	2 20	2 60	2 80
27 Goa	1 35	2 00	2 20
28 Lakshadweep	—	—	—
29 Mizoram	1 81	2 00	2 20
30 Pondicherry	1 21	2 00	2 20
31 Dadra & Nagar Haveli	—	—	—
Grand Total	1103 24	1380 80	1460 00

(Contd. on page 26)

Agriculture, weather forecasting and the communication gap

Mohan Chandak

The author in this article stresses the importance of weather forecasting for agriculture. He analyses the different types of forecasts available for farmers. But he laments over the ineffective application of the available knowledge in the field of Agricultural Meteorology.

AGRICULTURE FORMS THE BEDROCK OF INDIAN economy Two out of three persons are directly dependent on agriculture for their livelihood Despite the stress on industrialisation during the forty years after independence, this sector still constitutes to a third of the national income In 1950-51, agriculture and allied occupations formed almost 60 per cent of the national income In developed countries, agriculture accounts for a small fraction of national income In Britain, its share is 2 per cent in USA 3 per cent and in Canada 4 per cent

Indian agriculture also provides jobs for two-thirds of the working population This sector also supplies raw materials to a large number of our industries like textiles, vanaspati, sugar, handloom weaving, rice husking, etc which depend directly on agriculture Almost half of the income generated in manufacturing sector comes from these industries

Agricultural products also play a very important role in India's external trade Tea, sugar, tobacco, oilseeds etc form the bulk items of exports from India. According to one estimate, agricultural products account for over two-thirds of India's export earnings Besides, to a great extent, agriculture also supports infrastructure sectors like rail and road transport

Thus it is imperative that for economic development of the country, development of the agricultural sector is a must If the farmers and their people depending on agriculture become well-off, they in turn will boost well-being of the other sectors due to their increased purchasing power

Planning for development of agriculture

Planners have realised the importance of agriculture in Indian economy and adequate attention is being paid to this vital sector after independence Agriculture and irrigation were accorded top priority in the very first Five Year Plan. As much as 31 per cent of the total public sector outlay was devoted to the development of this sector Even afterwards under the successive plans, 20 to 25 per cent of outlay was earmarked for Agriculture and irrigation (Table I).

Table 1

Share of agriculture under various plans

Period	*Total outlay*	*Outlay for agriculture & irrigation*	*Percent of total outlay*
First Plan	1960	600	31
Second Plan	4600	950	20
Third Plan	8577	1745	20
Annual Plans	6757	1624	24
Fourth Plan	16160	3300	21
Fifth Plan	39300	8080	21
Sixth Plan	97500	24700	25
Seventh Plan	180000	29770	22

Source Various five year plans

Under the various five year plans, a number of areas were selected for growth of agriculture. These included supply of inputs like improved and high yielding seeds, fertilizers, credit, implementation of land reforms, spread of modern technology and increasing the area under irrigation. As a result of the steps taken by the government and the farmers' efforts the agricultural production showed significant increase in all spheres. Growth in the production of some selected items is shown in Table II.

Table II

Agricultural Progress (1951-1987)

	1950-51	*1986-87*	*Percent increase*
(1) Foodgrains (million tonnes)	51	144	182
(2) Oilseeds ,,	5	11	120
(3) Sugarcane ,,	57	183	221
(4) Cotton (Million bales)	3	7	133
(5) Jute	3	9	200

Source Annual report of Ministry of Agriculture (1987-88) Economic Survey (1987-88)

Low productivity in agriculture

Thus there has been impressive growth in agricultural production since independence. This growth, however, also includes the one due to the increased area under cultivation During the period 1950-51 and 1986-87 the area under cultivation increased from 122 million hectares to 165 million hectares, a substantial increase of 35 per cent.

Though the per hectare yield or productivity of various crops has also increased, the gains are not as impressive as seen in developed and many developing countries Table III gives some comparative figures of productivities of some selected crops with those in some other countries, both developed and developing. The table clearly shows that average productivities in agriculture in India are far below the world average and a lot remains to be done in this regard

Table III

Average yield per hectare in some selected countries (in 1985-86)

Product	*Country*	*In kgs/hectare*
Rice	India	1600
	Japan	4200
	USA	4200
Wheat	India	2000
	France	5500
	Germany	6300
Maize	India	1500
	Italy	7500
	USA	7500
	China	3500
Sugarcane	India	60,000
	Peru	1,37,000
Cotton lint	India	196
	China	890
	USSR	717

Source Food & Agriculture Organization year books

Reasons for low productivity

A large number of factors have contributed to the low productivity of Indian agriculture These include ancient agricultural practices, small size of land holdings, improper implementation of land reforms and low availability of credit Yet another important reason is over dependence on nature and insufficient irrigation facilities

Insufficient irrigation

Less than a fifth of the total cultivated land had irrigation facilities at the time of independence This has increased to about 36 per cent at present However, the area under irrigation is very small compared to the potential that exists in the country The present long term goal is to use all the available water resources by 2010 AD and to create an ultimate irrigation potential of 114 million hectares But until that time, agriculture in India will have to largely depend on the uncertainties of monsoons.

Vagaries of uncertain weather

For centuries Indian agriculture has been subjected to the vagaries of uncertain monsoons. One shower of excess rains or one missed shower or the rains at wrong time and the whole year's toil goes in vain Successive droughts and devastating floods have been the bane of this country. A number of times it can be seen that one part of the country is gripped by a severe drought while another is witnessing an equally severe flood

Not having the knowledge of what is going to follow in the coming year, excessive rains or scanty showers, the farmer is unable to plan his crop accordingly Thus a farmer would gladly welcome reliable information on the likely weather conditions including rainfall in the next season The science of agricultural meteorology or weather forecasting for agriculture has great promises for the future

Weather forecasting

Curiosity has been one of the basic human instincts which has helped further the boundaries of scienfific knowledge.Man has always been curious to know the environment in which he lived, the sudden changes always awed him, and from the very beginning, he was trying to know the likely changes that might occur in its surrorundings

Even the Sanskrit literature of ancient India, during the period of Aryans, shows that the Aryans had the knowledge of rainy season, when rains fall on most of the days Literature also shows that even in those days, an attempt was made to forecast weather for helping sowing In the Brihat Samhita compiled by Varahmihir around the sixth century AD an attempt has been made on monthly rainfall forecasts on the basis of clouds Even in recent times, the first long range forecast of seasonal monsoon rains over India and Burma was issued by H F Blanford way back in 1886

With the advancement of technology, new and better forecasts about the likely weather are now available Realising the importance of weather forecasts in agriculture, a separate department of Agricultural Meteorology, or Agromet, in short, was set up under the Indian Meteorological Department (IMD) in 1932 This department prepares weather forecasts of varying durations keeping the farming community as its target group

Present position

India has done pioneering work in weather forecasting Forecasts are usually of three types short range, medium range and long range. Short range forecasts cover the next 48 hours. Medium range forecasts are for the period of next two to ten days while long range forecasts are given out for periods beyond ten days

Short range forecasts or farmer's weather bulletins are being issued by the Agrimet department from various centres in the country since 1945 At present, besides the headquarters, Pune, these forecasts

are being prepared at eight other centres. These are Srinagar (Jammu and Kashmir), chandigarh (Punjab and UT) Delhi (UT), Patna (Bihar), Bhubaneshwar (Orissa), Bhopal (M.P.), Calcutta (W.B.) and Madras (Tamil Nadu).

Agrimet department gets weekly averages of various meteorological data like cloud amount, wind velocity and direction, maximum, minimum and mean temperatures, relative humidity, etc. from the weather forecasting unit. The data is then analysed and forecast for the next two days and outlook for the subsequent two days is prepared. This forecast is then discussed with experts from the agricultural universities and extension wings of the agricultural department of the State governments. Advisory bulletins are then prepared for the farmers which are then broadcast over All India Rodio Stations This material is also used by Doordarshan Kendras in their programmes for the farmers

Long range forecasts are also prepared for onset of monsoons, rainfall during monsoons, monthly rainfall and winter rainfall. Recently, an improved model, the dynamic stochastic transfer forecast technique has been developed by an Indian scientist, Dr V Thapliyal of the IMD, Pune in 1984 This method is superior to the ones used earlier and the results obtained by it are also said to be better Long range forecasts, on the whole, are said to be 70-80 per cent accurate Long range forecasts are also put out on radio and television Headquarters of the Agrimet division is located at Pune and it prepares the weather bulletins for farmers in Maharasthra The position in other centres in the country is understood to be more or less the same

Future Prospects

Earlier governments had given due importance to agriculture. The first Prime Minister, Pandit Jawaharlal Nehru had said "everything can wait but not agriculture" Mrs Indira Gandhi had described agriculture as our Adi Mantra The present government is aware of the importance of new technologies in developing agriculture. The Prime Minister Mr Rajiv Gandhi had said in 1986 while speaking at the silver jubilee convocation of the Indian Agricultural Research Institute, ". As we look towards the next century, when we think of new technologies, new sciences for India, our attention must remain centered on the agriculture sector This will be so for many years when we talk of high technology today we are talking about bio-engineering, we are talking of better power for agriculture, better implements, better tools. We are talking of better forecast of the rains, the monsoons ."

A super computer has been imported from the United States This will mainly be used in medium range forecasting A technological mission is looking after the development of better and more accurate weather forecasts for smaller areas The Department of Science and Technology is involving both the Indian Meteorological Department and the Indian Council of Agricultural Research in this scheme. More meteorological centres ae coming up. About 40 such centres are to come up in 1989. A total of 127 Met Stations have been planned for the 8th Plan. All the data coming from various stations will be fed to the super-computer which will be churning it to give better forecast for smaller regions. It will also be giving distribution of rainfall within the season.

The communication gap

The future prospects look quite impressive. However, the present state is not very satisfying. Already there is far more scientific knowledge avilable in the field of weather forecasting, and India is also not lagging behind in this area. The problem is more effective application of the available knowledge.

A general look at the way of putting forward the available information to the ultimate users viz the farmers, shows that a lot more can be done to make it more useful

For example it is common knowledge among the grape growers that low temperatures are harmful for the grape shells and damage the crop so whenever a cold spell is predicted by the met office, the agricultural advice given is to keep the grape farms warm by night by burning stray materials, waste fodder etc Farmers who attempt this heating around midnight do not get desired results because the coldest part of the night's not around midnight but somewhere before the sunrise So heating should be done around the coldest period of night i e before sunrise to prevent crop damage This informaltion available scientifically should be properly communicated to the farmers in a way easily understood and assimilated by them

Farmers should also be warned about likely outbreaks of diseases-of crops and also of cattle Certain diseases like potato blight occur and spread in known conditions of temperature and humidity. If these conditions are likely to occur in potato growing regions, the farmers can be advised to take specific preventive measures.

Similarly certain cattle diseases can also be anticipated Recent discoveries show that foot and mouth disease of cattle spreads under particular rain and wind direction conditions These can be predicted and farmers can save their cattle taking suitable preventive measures It may be noted that India has one of the largest cattle populations, about 200 million in the world

With the available long range forecasting techniques, it is possible to predict the likely amount of rainfall during the coming season well before the sowing period Thus the farmers in specified areas can be told as to which crop will grow better in that season.

Then the illiterate or barely literate farmer cannot comprehend the meaning of the terminology used for weather forecasting. For example, he will not be able

to differentiate between a "normal" rainfall prediciton and a "good" one. How will he know that 'normal' means ± 10 per cent of the average of the past 80 to 100 years and 'good' means above 90 per cent of the average of past 80 to 100 years and this 'good' may go far beyond the 'normal' to spoil the crops by excess rains.

Another point which one notices while studying the advice to farmers in the weather bulletins in Maharashtra is that it is extremely general For example, "Protection may be given to crops from cold wave conditions "for "necessary control measures recommended by the Agricultural department may be taken", etc The poor farmer listening to the weather bulletin is left high and dry as to what exactly he is supposed to do.

Thirty districts of Maharashtra have been divided into four regions, giving each region 7 to 8 districts each It is very difficult to make forecasts useful to all farmers in such a vast area Besides the differences in the soil and weather conditions, there are diffences in local dialect of the language spoken and understood by the farmer

Presently the forecasts are given only by radio and television. Both these media have their own problems Both lack permanency. Both media demand farmers attention at a specified time period Both are spoken word media and if there is any small problem in communication be it technical or contentwise-the whole message is lost as the farmer cannot refer back to earlier information And then, how many farmers can afford a TV set and how many villages have a working community TV set at present?

Role of Communicators

One thing that emerges clearly from the foregoing discussion is that professional communicators have a vital role to play to achieve better results from the scientific knowledge flowing from the meteorological and agricultural departments Until and unless the scientific information is understood and digested by the ultimate user-the farmer and he is told specifically what to do next, improvement in the agricultural production, particularly in the dry land farming is very difficult. Thus, it can be suggested that the farmers advisory weather bulletins should be prepared jointly by the meteorologists, the agricultural scientists and the communicators When these three persons pool their expertise the farmers will get the required information.

Besides simplifying the language the communicator will also have to use the local terminoloy for crops, diseases, pests, materials and equipment so as to make the farmer understand what the experts mean Along with the warning, the experts should also give the specific remedial action

Depending on the cropping pattern, weather and soil conditions, the communicator should decide about the exact target audience and the number of weather bulletins a state should have. He should look at the information given by the meteorologist and the agricultural scientist from a common man's point of view and try to get answers to the querries that may arise in the minds of the farmers.

Then, besides AIR and Doordarshan, the communicator should also tap some other channels to reach to the farmer more effectively The use of press, perticularly, the small and locally available newspapers, and the help from the village level workers along with that from the Gram Panchayat can be of great use in reaching more number of farmers and more effectively

Even radio and TV can be put to better use through more effective communication The timings of these weather forecasts can be fixed after studying the listenership/viewership patterns in villages. Besides simplifying the language, these can also be made part of the local and regional news bulletins with more effective use of the enlarged cloud maps obtained from the satellites and other weather data, the same information can be made simple and interesting to the farmers

Effective machinery should also be set up to look after the feed back from the farmers and to take care of individual specific queries

Conclusion

Agriculture forms the bedrock of Indian economy. A major portion of Indian farming is subject to the vagaries of weather. A vast reservoir of knowledge is available in forecasting weather and its likely impact on agriculture However, only the tip of the iceberg reaches to the farmer in usable form Hence communicators have a vital role to play in conveying the available information to the farmers is easily digestible form

Farmers should not be told to make hay when sun shines but definitely they should be told as to which seeds to sow in coming season, when to use which insecticide/pesticide and in what quantities, when to resort to irrigation and what quantities, when and how to prevent crops from natural calamities like cold spell, excessive heat and likely onset of diseases, when and how to go in for second crop, whenever possible and when to look forward to in case of any problems This will definitely help boost our agricultural production particularly from dry-land areas to a great extent

(Contd. from page 22)

In the Inland fisheries sector also, the gap between the available potential and the exploitation level reached so far is wide and needs to be narrowed down We are in the process of identifying areas which require further strengthening such as FFDA programme, Composite fish culture, Reservoir fisheries and above all the need to reach self-sufficiency in fish seed production

Pollution, a serious threat to environment

Dr. S.N. Singh

Environmental pollution from hazardous industries has taken a new dimension. In the wake of the gas leakage tragedies of Bhopal and Delhi, Govt. has enacted the factories (Amendment) Act, 1987 with a view to protect the workers and control environmental pollution. Unless the provisions of the Act and other legislations are rigorously enforced, pollution through hazardous industries may take a turn threatening the entire environment, the author warns.

THE CONTROL OF POLLUTION CAUSED BY industrial processes has been one of the most burning problems posing a serious threat to the health and life of every one. The imposition of various types of restricitions and conditions in the industrial licences issued under the Industries (Development and Regulation) Act, 1951 has not contained the industrial pollution to any desired extent. The disasters caused by the leakage of methyl isocyanate on the night of December 2-3, 1984 in Bhopal from the plants of the Union Carbide of India Ltd furnishes enough evidence of inadequacy of preventive and safety measures and devices adopted in the industrial processes and location of undertakings

Recently, the public spirited citizens are approaching the courts particularly the Supreme Court seeking judicial intervention in the prevention of water, environmental and other kinds of pollution likely to be caused by industrial undertakings. In M.C Mehta v Union of India the Supreme Court directed the closure of all the tanneries working in Kanpur till they set up primary treatment plants before discharging their effluents into the river Ganga. A similar direction was again given by the court to all local bodies in the State of Uttar Preaesh to take steps to prevent throwing of half-burnt dead bodies in that river People have also approached the courts for compensation to those who have suffered as a result of leakages of gas.

The hazardous processes involved in the industrial production endanger not only the safety and health of the factory wokers but also cause environmental pollution affecting the public at large. It is thus essential that the interests of the workers as well as the public at large need to be protected from hazardous processes by preventing environmental pollution For this purpose, the Parliament recently enacted the Factories (Amendment) Act, 1987 with a view to protect the workers' health and ensure their saftey and to control the environmental pollution The Factories Act, 1948 has been drastically amended by inclusion of a new Chapter IV-A containing sections 41-A to 41-H. These provisions seek to control hazardous processes which term has been defined as any process or activity adopted in an industry in which the raw materials used or any intermediate or finsished products, by-products, wastes or its effluents are likely to cause material impairment of the health of the workers employed in the factory or result in the pollution of the general environment For the purposes of control, three committees have been proposed, Site Appraisal Committee, Inquiry Committee and Safety Committee The provisions of these newly added sections are applicable to the establishment of a new factory as well as to all the existing factories

Site Appraisal Committee (SAC)

Every State government has been vested with discretionary power to appoint SAC for advising it regarding applications for the grant of permission for the initial location of a factory involving a hazardous process The composition of SAC is quite broad-based. It has to consist of the chief inspector of factories of the state who will be its Chairman and one representative each of the Central Board and State Board constituted under the Water (Prevention

and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, department of Environment in the State, Meteorological department of the Government of India, Town Planning department of the State Government and an expert in the field of occupational health, the state government has also power to co-opt not more than five members to SAC who shall be scientist with specialised knowlege of the hazardous process which would be involved in the concerned factory, a representative of the local body and not more than three other persons. If, however, any process relates to a factory owned or controlled by the Central government or by a Corporation or a Company owned or controlled by the Central government, a nominee of the Central government is required to be co-opted to SAC by the State government.

The First Schedule to the Act contains a list of 29 industries which are involved in hazardous processes The SAC is required to examine an application for the establishment of a factory involving such a process and make its recommendations to the State government within ninety days of the receipt of the application The Act, however, does not make it clear whether all the applications have to be referred to SAC for its advice or only some of them at the discretion of the State government. Needless to state that if the objectives of the newly added provisions are really intended to be achieved, then all the applications must receive the attention of SAC It is also not clear whether the advice of SAC would be binding on the State government Once again, if the State government adopts a free hand and ignores the advice of SAC, the very purpose of referring the application to it would be frustrated nullifying the objective of the new legislation It is expected that the State government will not do so

The SAC has been given power to call for any information from the applicant Unfortunately, there is no express provision conferring any right on the workers or the members of the general public to participate in the enquiry proceedings held by SAC This is a very serious lacunae in such a piece of legislation intended to protect the workers and general public An applicant might seek to keep SAC in the dark about the negative aspects of its proposal It is only the vigilant workers and members of the general public who can play an effective role in the proper enforcement of these provisions There is no reason why the Act should not be amended to plug this loophole in the legislation The workers and the members of the general public should be given full right and opportunity of hearing and access to all documents produced before SAC to make their right meaningful. Every application must be required to be given due publicity through mass media locally and at the national level as is required to be done under Chapter III of the Monopolies and Restrictive Trade Practices Act, 1969 for preventing concentration of economic power which is likely to be detrimental to the general public Such a kind of public and workers participation and due publicity is required for another reason also The grant of approval by the State government to an application for the establishment or expansion of a factory involving hazardous precess under section 41-A will amount to an approval under the Water (Prevention and Control of Pollution) Act as well as the Air (prevention and Control of Pollution) Act It should therefore be made incumbent that the applications under these provision must be considered from all angles with full participation of everyone likely to be adversely affected by the establishment or expansion of a hazardous factory.

Inquiry Committee

The best of efforts may at times fail to prevent pollution resulting in extraordinary situations as happened in Bhopal and Delhi. the outburst from a factory involved in any hazardous process may result in tremendous destruction to life and property If any such outburst has taken place, the Central Government has power under section 41-D to appoint a three-member inquiry committee to enquire into the standards of health and safety observed in the concerned factory with a view to finding out the causes of failure or neglect in the adoption of any measures or standards prescribed for the health and safety of the factory workers or the general public affected or likely to be affected thereby The aim of appointing an inquiry committee is to prevent the recurrence of such extraordinary situations in future in the factory concerned or elsewhere Unfortunately, there is no express provision that the recommendation of the committee would be binding on the government On the other hand, it has been provided that the recommendations will be advisory only

Safety committee

Section 41-G of the Act envisages the setting up of a safety committee by the occupier of every factory where hazardous precess takes place or hazardous substance are used or handled The safety committee has to consist of equal number of representatives of the management and workers The aim of setting up safety committee is to promote cooperation between the workers and the management in maintaining proper safety and health of workers at work and to review periodically the measures taken in that behalf. The State government has been given power to exempt any occupier of a factory or class of factories from setting up such a committee for reasons to be recorded It is not understandable as to why any factory handling or involved in hazardous substance or processes should be granted exemption from setting up a safety committee

Worker's right to warn

In addition to their participation in the safety committee, the workers of a factory have a a right under section 41-H of the Act to warn against the

imminent dangers in the factory. If the workers have a reasonable apprehension that there is a likelihood of imminent danger to their lives or health due to any accident, they may bring the same to the notice of the occupier, agent, manager or any other person in charge of the factory or to the safety committee and simultaneously to the notice of the inspector of factories A duty has been cast on the occupier of the factory to take immediate remedial measures and send a report of the same forthwith to the inspector Even when the occupier was satisfied that there was no imminent danger as apprehended by the workers, he is required to refer the matter to the nearest inspector whose decision on the question would be final.

Duties of occupiers

Sections 41-B and 41-C of the Act impose specific duties and responsibilities on the occupiers of factories involved in hazardous processes At the time of registering a factory involving a hazardous process, the occupier is required to lay down a detailed policy regarding the health and safety of the factory workers He has to intmate that policy to the Chief Inspector and the local authority from time to time The occupier is also required to maintain an uptodate record of health or medical records of workers concerned with hazardous process, appoint qualified persons with experience in handling hazardous substances to supervise the process and provide medical examination of workers before assigning work in a hazardous process and at intervals not exceeding twelve months

The occupier is also required to disclose certain information to the factory workers, chief inspector, local authority and the general public in the vicinity The information required to be disclosed realtes to dangers including health hazards and the measures to overcome them arising from the exposure or handling of materials or substances in the manufacture, transportation, storage and other processes including accurate information as to the quantity, specifications and other characteristics of wastes and the manner of their disposal For the disclosure of information, time limit has been prescribed under the Act The disclosure must be made within 90 days of the commencement of the Factories (Amendment) Act, 1987 or 30 days of the commencement of the hazardous process.

The occupier is also duty bound to publicise among the workers of the factory and the general public living in the vicinity about the measures laid down by him with the previous approval of the Chief Inspector for the handling, usage, transportation and storage of hazardous substances inside the factory premises and the disposal of the same outside the factory premises

The on-site emergency plan and detailed disaster control measures for the factory are also required to be drawn up by the occupier of every factory involved in hazardous processes with the approval of the Chief Inspector The plan and measures are required to be made known to the factory workers and the general public in the vicinity, who will also be told about the safety measures to be taken in the event of an accident taking place as a result of hazardous process

Limits of exposure and standards

Section 41-F of the Act prescribes the permissible threshold limits of exposure of chemical and toxic substances in the manufacturing processes, whether or not hazardous, in any factory as indicated in the Second Schedule to the Act. The provisions contained in the Schedule may be suitably changed by the Central government from time to time for the purpose of giving effect to any scientific proof obtained from the experts in the field or the specified institutions.

If for any hazardous process, no standards of safety have been prescribed or the same are inadequate, the Central government may direct the Director-General of Factory Advice Service and labour institutions or any other specialised institutions to lay down emergency standards for the enforcement of suitable standards in respect of hazardous processes. These emergency standards will have the same effect and enforceability as the rules made under the Act

Enforcement

The regulatory measures prescribed under Chapter IV-A of the Act cannot be easily ignored by the owner or occupier of a factory involved in the hazardous process If he has contravened the provisions relating to information required to be given under section 41-F or failed to perform his duties under section 41-C or failed to take remedial measures to prevent imminent danger under section 41-E, he would be punishable with imprisonment which may extend to seven years and with fine upto Rs two lakhs If the failure or contravention is a continuing one, an additional fine of Rs five thousand may be imposed for every day of the failure or contravention continues If such a failure or contravention continues for more than one year after the date of conviction, the offender may be punished with imprisonment which may extend to ten years Morever, if the information required under section 41-B is not given by an occupier of a factory, his licence for the factory may be cancelled as an additional penalty.

Need for cooperation

The enactment of a plethora of legislations will harldy serve any useful purpose unless the authorities and bodies created under them work in close cooperation with each other The Central and State governments must enforce the legislative measures in right earnest. The authorities entrusted with the enforcement of the Environment (Protection) Act , 1986 must play an important role in the enforcement of the provisions of the Factories Act, 1948 to make both

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Towards a 'Lead industry' approach

Dr. P.M. Mathew

The author, in this article, analyses the pros and cons of 'candidate industries' and 'Lead Industries' as agents of industrialisation of backward states. The 'Lead Industry' approach which is more target-oriented and location specific is more likely to achieve quicker results in the area of industrial development, the author affirms.

DISTRICT INDUSTRIES CENTRES HAVE BEEN the focal point for the development of small-scale and cottage industries in India since the promulgation of the Industrial Policy Resolution, 1977 The DICs provide all services and support required by small entrepreneurs, including identification of suitable schemes, preparation of feasibility reports, arrangements for supply of machinery and equipments, provision of raw materials, credit facilities and inputs for marketing and extension services

In accordance with the directives of the Government of India, the broad profile of activities of the DICs have been provided by the annual Action Plans Based on the Action Plans formulated for the districts which covers all industrial sectors, an Action Plan for the state as a whole has been formulated. The activities of the Department of Industries for the succeeding year have been based on such Action plans. The districtwise distribution of new units to be set up as per the targets fixed in the Action Plans guides the activities of the Department in the reference year According to this Action Plan, Industrial Growth Centres have been identified throughout the country. in addition to a number of mini and major industrial estates

The concept of Candidate Industries

An important feature of the Action Plans is the *candidate industries* that have been identified by them. Based on the data obtained from studies in all the districts in order to identify possible industries, a list of candiate industries has been set up at the state-level. The criteria involved in their selection are, the availability of resurces locally, and the potential for ancillarisation

The concept of *candidate industries,* however, is not based on any rigid principle of comparative advantage of particular industries across specific geographical regions (say districts) by which regions are ranked according to their suitability for a particular industry On the contrary, the concept only considers the industries that *can be* set up in a particular region, irrespective of whether the region concerned is the most suitable or not The concept of 'candidate industries', when operationalised, therefore, has a tendency to be prone to locational disadvantages and unhealthy competition in the product market

'Lead industries' approach

The concept of 'lead industries' and an approach to industrial development based on such a concept, are likely to have an edge over the concept of 'candidate industries' The concept of 'lead industries' implies giving primacy to any one specific industry in a particular region based on its natural advantages there If the development activities of the industrial sector in each district is basically focused on the concerned lead industry of the region, it is likely to be beneficial to the economy mainly in three ways 1) minimisation of costs, 2) raise in the competitive position of the industry in relation to production of the same industry from other parts of the counrty, and 3) the financial institutions and officials of the DICs can take more specialised efforts towards the development (as well as of nursing of sickness) of that industry

The 'lead industries' approach is logically based on a principle of comparative advantage, analogous to the one in International Economics The Principle goes by the well-known dictum " competence should be used where it counts most and incompetence where it counts least" Thus, even while admiring the merits of an industrial dispersal policy in the long-run, the comparative advantage of particular industries in particular regions must be tapped Thus, within the overall promotional set-up, one can think of a special status for particular industries in particular regions Thus metal-ware industry can find Moradabad as the most suitable

region, printing and match-marking in Sivakasi, diamond-shaping in Surat, Beedi in Cannanore etc.

A 'lead industries' approach is likely to have demerits too. Informalisation of work processes and relations of production is an important weakness found in most concentrated industries. The highly exploitative labour situation in Ludhiana carpet industry, jari industry in Surat, the rampant role of child labour in Sivakasi's match industry are well-known. However strong strong initiatives by the trade unions, coupled with a strong and consistent political will by the government in power can see through these problems. Concentration of production capacities, unhealthy growth of trade as against value-adding activities and industrial sickness are likely to be some of the disadvantages of such an approach. It is in this context that the need for scientific industrial planning arises. Though in India, a regulatory mechanism controls the working of industrial sector as a whole, the extent and pattern of growth of the small-scale sector is still beyond the compass of the analytical tools in the planner's kit Overall physical planning cannot be the solution in the existing socio-economic system. A 'lead industries' approach, if properly implemented, can equip the planners, the finacial institutions, and the implementing agencies with the necessary information data regarding atleast these industries

The 'lead industry' approach is expected to help to achieve quick results in the area of industrial development Such an approach is likely to be more target-oriented, and therefore, if properly designed, can be implemented with the full co-operation of all concerned. For instance, in industrialy backward states where private investment does not take place spontaneously to a desired level, the public sector enterprises and the co-operatives can be asked to contribute their mite for the development of the 'lead indsutry' If the entrepreneurs belonging to a particular industry are organised under an umbrella analogous to the Common facilties Service Centres, a spirit of co-operation can be aroused

Land Industries within Growth Centres

The 'lead industries' approach can as well be dovetailed with the new Growth Centre approach recently initiated by the Ministry of Industry, Government of India. The proposal is to set up within the next five years, 100 Growth Centres each costing around Rs 25-30 crores, for promoting industrialisation of backward areas. Under the proposal, Growth Centres will be established within the reasonable proximity of district/tehsil headquarters where potential existed for industrial development because of the availability of infrastructural facilities.

Any area approach to industrialisation, lured by the special incentives they offer, attract unvaiable or least desirable projects also. Therefore, the Growth Centre strategy also, if not properly based on a product policy, is likely to fall prey to this danger. A Growth Centre strategy, if properly dovetailed with a strategy of 'lead industries', can rectify this problem to a considerable extent.

While the large-scale sector is a regulated sector with clear guidelines regarding licensing of production capacity, there is no such regulatory mechanism in the small-scale and medium-scale sectors. This leads to either stagnation or growth of these sectors on undesirable lines A 'lead industry' approach is a first step towards a rational product policy in the small and medium scale sectors. ❑❑❑

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of them meaningful The directions of the courts to prevent pollution of rivers etc must give a guidance to the law enforcing agencies if the government really wishes to ensure pollution-free industrial development of the country

With the tremendous emphasis on the industrial growth carried on with the help of hazardous processes, the gas leakage tragedies in Bhopal and Delhi could not be viewed in isolation. Only on March 15, 1988, it was reported that 120 persons mostly children were hospitalised after they were affected by amonia gas leakage in north-eastern industrial suburb of Chembur in Bombay city. The leakage occured because of crack developed in a valve in the factory of the Bombay Carbon Pvt. Ltd. The rivers are being subjected every day to various kinds of pollution by trade effluents being thrown into them On March 15, 1988, the Rajya Sabha was informed by the Union Minister of State for Environment and Forests, Shri Z R Ansari, that 68 industrial units are polluting the river Ganga by discharging more than 1,000 KL of effluents daily into it. Of these, 34 were in Uttar Pradesh, 5 in Bihar and 29 in West Bengal. Unless the pollution of this magnitude is controlled by rigurously enforcing the provision of the Factories Act, 1948 and other legislations, pollution through hazardous processes may take a very serious turn threatening the entire environment High hopes are pinned towards the new provisions and it is expected that the law enforcing agencies in the state government will earnestly enforce the new provisions. ❑❑❑

Research for environmental protection

The Ministry of Environment and Forests has sponsored 637 research projects for environmental conservation and protection with an outlay of Rs. 27.96 crore. Of these, 262 projects costing Rs. 8.80 crore have been completed and rest of the 345 projects sanctioned for Rs. 19.16 crore are still going on. These projects are being implemented through the government, semi-government, autonomous institutions and Universities by assisting them financially to augment their equipment and manpower facilities. ❑❑❑

Role of lead bank : A case study

Dr. G. Savaraiah & Km. N. Nirmala Mani

Financing of agriculture on priority basis by commercial banks began with the nationalisation of banks in 1969. This article presents a case study of the extent of agricultural finance made by commercial banks under the lead bank system with particular reference to the mandals of Guntur district in Andhra Pradesh. The study reveals an up-ward trend in the scale of financial assistance whereby the economy of the district has improved considerably.

CREDIT IS ONE OF THE PRE-REQUISITES for farmers to increase the agricultural output in the process of agricultural development of a country Provision for institutional Credit to agriculture has assumed growing significance in the new strategy for agricultural development The modernization in agriculture requires large amount of agriultural inputs, particularly the investment and this has augmented greater demand for agricultural finance Financing agriculture in a more systematic manner and on a priority basis actually began with the nationalization of 14 major Commercial Banks in 1969. The agricultural finance was given an important place in the district credit plan after introducing the Lead Bank Scheme in 1972 During the recent years, Commercial Banks, particularly nationalized, have shown a good performance both by extending banking facilities in rural areas and by increasing the volume of advances to agricultural sector under the leadership of Lead Bank However due to various reasons the bank advances and its overdues are very high in some parts of the district and very low in some other parts of the district. In view of this, the present study is undertaken to asses the sample madnals of Guntur District, Andhra Pradesh

Methodology

Baptla Mandal, Pittlavaripalem and Ponnur Mandals are purposively chosen for the study. There are about 28 Commercial and Co-operative Banks operating in these three mandals A sample of Commercial Banks at the rate of 2 Bank Branches from each mandal was randomly chosen for the study The data pertaining to the deposits and advances of sample bank branches are obtained from the records of the respective banks during 1987-88 The data relaing to the institutional finance for agriculture repayment performance of the farmers are collected from the sample farmers With a view to getting sizeable sample farmers (beneficiaries of Commercial Banks) 6 villages are selected in order to select at least 10 per cent of the sample beneficiaries in those particularly selected villages on the basis of random sampling The total beneficiaries are 84 The growth rates and averages are employed in this study

General profile of sample mandals

BAPTLA MANDAL It is one of the oldest Taluks of Guntur District Now it is a mandal head quarters (from 1985 the taluk system abolished) There are 21 revenue villages in this mandal with 25 827 households The total population of this mandal is about 1 15 lakhs, of which S C , S T , population accounts for 15 per cent The total agriculturists in the mandal are 729, the small farmers (below 5 acres of land holdings) in this mandal is 13 880 and medium and large farmers 1 510 The total cropped area and the net cropped area is 19 244 hectares and 15 475 hecters respectively Among irrigational facilities, canal irrigation is important in the mandal. The net irrigated area is 13 991 hecters There are 8 primary Agricultural Credit Societies functioning in this mandal

The major crops that are grown in the mandal are Paddy, Cotton, Groundnut, Tobacco and Redgram There are about 13 Banks including Co-operative Banks operating in the area, milk chilling centre and Animal dispensary

PITTALAVARI PALEM It is one of the oldest villages of Guntur District and now it is a Mandal head quarter (from 1985 the taluk system abolished) There are 6 villages in this mandal with 7 944 households, and the total population of this is about 0 348

lakhs. of which S.C . S T . population accounts for 6.78 per cent. The total agriculturists in the mandal are 4590.

The gross cropped area is 77 677 hectares and the net cropped area is 5 872 hectares respectively The area sown more than once is 1 895 hectares Canal irrigation is the important source of irrigation in the mandal The net irrigated area is 5 623 hectares There are 5 primary Agricultural Credit Societies functioning in this mandal The major crops that are grown in this area are Paddy, Cotton, Groundnut Tobacco, Sugarcane, Redgram and Chillies

Ponnur mandal · Ponnur is one of the oldest taluks of Guntur District. Now it is a mandal (from 1985 the taluk system abolished) There are 18 villages in this mandal with 23 688 house-holds, the total population of this mandal is about 1 05 lakhs, of which S C , S T , population accounts for 17 3 per cent The total agriculturists in this mandal are 8 183

The gross cropped area is 23 740 and net cropped is 13 149 hectares respectively The area sown more than once is 10 785 hectares The irrigation facilitates mostly Canal irrigation and Filter Points system The net irrigated area is 12 978 hectares 8 primary Agricultural Credit Societies are functioning in this mandal

The major crops that are grown in this area are Paddy, Cotton, Groundnut, Tobacco, Sugarcane and Redgram

Results of the study

The sample Commercial Banks started financing the agricultural sector in Ponnur and Baptla blocks from 1970 onwards, but in Pittlavaripalem mandal from 1975-76 onwards The growth of deposits and advances of sample bank branches in the study area have increased in an impressive manner during the

Table 1

Capital growth of deposits and advances of sample bank branches

(Rs. in lakhs)

As on December	Deposits	Total Advances	Agricultural Advances	of which G L	Percentage of Agricultural advances to total advances: Commercial Bank	Lead Bank
1983	640 68	511 01	450 88	126 5 (28)	88	43
1984	789 01	820 07	780 01	184 6 (24)	95	27
1985	919 88	1064 24	865 92	260 1 (30)	81	41
1986	1133 76	1311 09	1196 87	292 9 (25)	91	35
1987	1224 00	1403 86	1089 11	N A	78	47

Source Field Data
Note G L -Gold Loans

period of study The growth of deposits and advances of sample bank is presented in the following table.

There is a two-fold increase in the deposits The sample banks have been tapping the rural savings in the from of deposits even with the major amounts The total advances of sample banks have increased by Rs 892 85 lakhs in 1987 over 1983 which shows a more than 2 and half-fold increase The source of finance of sample Commercial Banks are inadequate throughout the period of the study except 1983 It indicates an inflow of Credit in the rural areas. The total agricultural advances have increased by Rs 638 23 lakhs in the same period which is an increase of 142 per cent The additional loans (beside the crop loan and term loan) are taken from the sample Banks by pledging their gold ornaments at the rate of 11 5 per cent for the purpose of developing the agriculture The total Gold Loans have steadily increased during the study period The proportionate share of gold loans to the total agriculture loans has accounted for 25 per cent in 1986 as against 28 per cent in 1983

The share of Commercial Banks to the total agricultural loans has declined by 10 percentage points in 1987 when compared to 1983 This shows that the rural development schemes particularly non-agricultural areas are getting the finance The share of Lead Bank in total agricultural Credit has increased from 43 per cent in 1983 to 47 per cent in 1987 This indicates that the Lead Bank has been trying to fulfill its targets within a stipulated period in its district Credit Plan

The number of villages covered by Commercial Bank Branches and concentration of loan in sample villages are shown in Table-2

The table shows that the coverage of villages has increased in all the sample bank branches except D Branch between 1985-86 and 1986-87 The concetration of bank loans has also increased during that period Thus it can be concluded that the banks tend to increase the coverage of villages along with an increased agricultural loan accommodation in the sample mandals.

The Commerical Banks are now embracing the entire rural economy As a national policy the Commercial Banks particularly the Lead Bank has taken a Challange to uplift the weaker sections-marginal and small farmers-to provide adequate amounts of loans. As a result of this the total number of beneficiaries (farmers has increased. The distribution of different categories of beneficiaries is shown in table -3.

The table reveals that the coverage of small, medium and large farmers by the Commercial Banks is workingout to 44 30 and 26 per cent respectively to the total agricultural beneficiaries during 1986-87 In the case of small and large farmers, their per centage coverage increased during 1986-87 over 1985-86 This may be attributed to fulfilment of the national priority to encourage small farmers However, the loan

Table 2

Number of villages covered and concentration of Loans

	1985-86						1986-87					
	A	B	C	D	E	F	A	B	C	D	E	F
1 No of villages covered	6	9	11	9	12	8	8	14	13	9	15	12
2 Concentration of loans in selected villages	41 5	49 3	38 0	34 0	31 8	44 0	47 4	51 6	46 5	41 8	39%	46 0

Source: Field Data.

Table -3

Holding-wise distribution of beneficiaries and loan amounts

	S F			M F			L F		
	No of A/Cs	*Amount*	*Percentage to total*	*No of A/Cs*	*Amount*	*Percentage to total*	*No. of A/Cs.*	*Amount*	*percentage to total*
Commercial Banks									
1985-86	1126	48 41	4299	998	57 99	5811	689	98 04	1423
1986-87	1638	64 91	3963	1108	91 18	8229	961	118 00	12289
Lead Bank									
1985-86	640	31 18	4872	340	28 36	8341	129	22 64	17550
1986-87	907	41 81	4610	681	51 00	7489	386	68 00	17617

Source Field Data
Note S F Small Farmers, M F Marginal Farmers, L F Large Famers

amount per beneficiary is low for small farmers than medium and large farmers This is due to lack of sufficient land holdings with the small farmers, because of the Commercial Banks prodiving asset oriented loan facilities.

The total number of beneficiaries of Lead Bank has increased by 865 which is an increase of 80 per cent during 1986-87 over the previous year This a remarkable improvement by the Lead Bank in the study area The percentage of Lead Bank beneficiaries to the total agricultural beneficiaries has resulted to 53.3 in 1986-87 when compared to the previous year The coverage of small farmers is high (45.9 per cent) when compare to that of medium (34 5%) and large farmers (19 6%). The loan amount provided by Lead Bank per beneficiary is also high when compared to the Commercial Banks Thus it can be inferred that the Lead Bank assumed greater importance in the development of small farmers

The recovery of agricultural loan category-wise has been shown in the table number-4

At the perusal of table number four, we can observe that the total number of beneficiaries who repaid the agricultural loans to the Banks have declined in case of small farmers and increased in the case of Medium and Large farmers But the amount repaid by the medium farmers is greater than small

Table 4

Recovery of short-term loans

	Small Farmers		*Marginal Farmers*		*Large Farmers*	
Commercial Banks	No of A/Cs	Amount repaid	No of A/Cs.	Amount repaid	No of A/Cs	Amount repaid
1985-86	905	31 84	614	49 91	554	71 16
1986-87	811	38 91	796	62 00	708	70 09
Lead Banks						
1985-86	576	218 00	210	17 38	71	16 89
1986-87	785	26 18	328	22 01	142	31 00

Sourse Field Data

faremrs and the Lead Bank recovery position is more than satisfactory when compared to Commercial Banks

Conclusions

Cultivation is an important occupation in our country Agricultural sector is considered as priority sector after nationalization of major Commercial Banks. Under the Lead Bank system, Commercial Banks have been providing financial assistance on an increasing scale in Guntur District. The recovery performance of the Banks in the district is also very impressive despite the drought conditions prevailing in the district. The Village Economy of the district has improved by the activities of the Commercial Banks

Telecom's Future Plans

The Indian Telecommunication Sector proposes to achieve the following objectives by 2000.

– extend the telecommunication services to every village by way atleast one Public pay-phone to provide both the telephone and the message service;

– in Urban areas too, provide adequate number of pay-phones within easy reach for all those who either can not afford to have a telephone of their own or need to use a telephone only occasionally;

– provide telephone and telex connections practically on demand to all those who need them urgently and are willing to pay adequately;

– build up a comprehensive voice and non-voice net-work for the business and industry compatible with similar networks around the world;

– build up the net-work such that calls flow freely under the control of the subscribers within the country and abroad;

– These objectives were outlined by Shri Bir Bahadur Singh, Union Minister for Communications while addressing the Session on "Future Policies and Strategies for World Wide Communication' in Asia Telecom 1989 Forum in Singapore recently. □□□

Government of India had decided to utilise radio system for telecommunication in rural areas and to base the telegraph net-work of the country utilising satellite linkages to reach the remote North-East region of the country. □□□

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Dr Zakir Hussain · [illegible]

House-sites for rural landless families

Shri Dalbir Singh, Minister of State for Urban Development, has said that housing being a State subject, all social housing schemes were formulated and implemented by the State Governments and Union Territory Administrations out of their plan resources as per their requirements and priorities. The scheme of Allotment of Housesites-cum-Construction Assistance for Rural Landless Workers and Artisans, including Scheduled Castes and Scheduled Tribes, was being implemented in the State sector. During the 7th Five Year Plan, upto December 31, 1988, 32.41 lakh rural families had been allotted house-sites and construction assistance had been given to 15.56 lakh families.

The Minister gave this information in a written reply in the Lok Sabha recently.

In addition, the Minister said that the Indira Awas Yojana scheme was being implemented with financial grant by the Department of Rural Development under the Rural Landless Employment Guarantee Programme (RLEGP). Under the scheme, 4.67 lakh dwelling units had been provided for families belonging to scheduled castes/scheduled Tribes and freed bonded labourers during the 7th Five Year Plan upto December 31,1988. The programme was being monitored as part of the 20-Point Programme. □□□

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SPOTLIGHT ON BUDGET

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CATION

Indo-Soviet trade turnover up by 24 percent

The trade turnover between India and the Soviet Union has exceeded the trade plan provision of Rs. 5000 crores for 1988 by about Rs. 200 crores. It represents a growth of 24.05 per cent over the turnover achieved in 1987. The trade plan for 1989 envisages a turnover of Rs. 7000 crores and against this, contracts totalling Rs. 5000 crores have already been signed. This was indicated at discussions held recently in new Delhi between the Commerce Minister, Shri Dinesh Singh and the Soviet Deputy Chairman of the Council of Ministers of USSR, Mr. V.M. Kamentsev. They discussed matters of bilateral trade interest, including the scope for the new areas of cooperation such as joint ventures.

Regarding implementation of the trade plan for 1989 which provides for a 35% step up in turnover, contracts have already been signed covering items of imports from the Soviet Union such as crude oil, wood pulp and chemical products as well as items of exports from India like coffee, leather and ready-made garments. Shri Dinesh Singh said effective steps would also have to be taken for early finalisation of contracts relating to supply of non-ferrous metals, pig iron etc. from the Soviet Union and to speed up contracts for Indian exports to the USSR of tea, jute products, and engineering items among others so as to ensure the full implementation of the trade plan during the current year. He also suggested that contracts and shipment of goods should be monitored at official level every month so that there were no shortfalls.

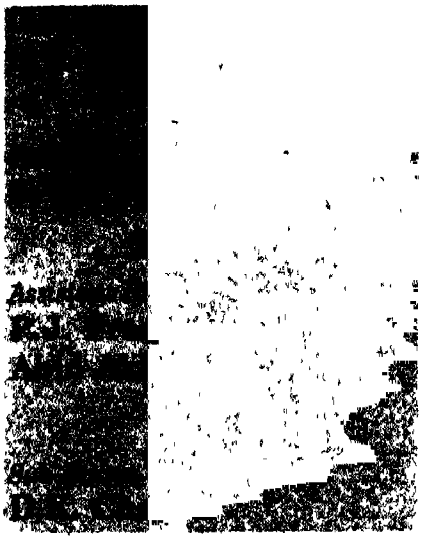
Another important aspect of growth emphasised by both sides related to joint ventures, production cooperation and direct links between Indian and Soviet enterprises. Nearly 10 joint venture proposals have already been finalised, including the 4 finalised in the fields of leather and jute. Shri Dinesh Singh mentioned that in order to help faster growth in these sectors some of the issues relating to requirements of free foreign exchange for the joint ventures as also the question of repartiation of profits earned in roubles would have to be resolved. He welcomed the Soviet offer of construction of 7 more hotels to Indian companies. It was suggested that these be finalised by September, 1989 so that the work on them could commence early next year.

Shri Dinesh Singh stressed the importance of long-term perspective planning on both sides to sustain and improve the growth in bilateral trade. The current long-term plan is due to expire on December 31, 1990. Negotiations for the period 1991-95 are scheduled to begin in June, 1989. Shri Singh said that long-term perspective plan upto 2000 AD would be needed to consolidate these trends and indicated that the Working Group on Trade would meet this year to discuss these issues. □

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A Cautious Budget

Pranab Banerji

The present Union budget for 1989-90 has been a clever exercise by the Finance Minister under difficult circumstances according to the author. The author says that the tax proposals are of substantive importance; yet he questions the heavy excise burden placed on iron and steel. In the opinion of the author, the Finance Minister has done well, but he may have done better! however, the author says it is a cautious budget!

THE ECONOMIST, THE RENOWNED CONSERVATIVE British journal, recently advised Nigel Lawson, Britain's chancellor of the Exchequer, to present a brilliantly boring budget. "Be boring and tinker brilliantly at the same time". it advised India's Finance Minister, Shri S B Chavan, has not come up with a budget which can be described as being brilliantly boring Nevertheless the budget has been a clever exercise under difficult circumstances and, judging from the reactions received in the two days following the budget, it has not been very exciting either

The task that the present Finance Minister faced was to prepare a budget (the most important annual statement of macro-economic policy) which would balance the need for fiscal prudence and the imperatives imposed by an election year In this he has done well. But he may have done better

Deficits

The most striking feature of this budget is the reversal of trend in deficits The revenue account deficit, indicating negative savings by the government, had been increasing at an alarming rate over the last few years. The revised estimates of 1988-89 put the revenue deficit at Rs. 11,030 crores which means that about one-fifth of our revenue expenditures have been financed by borrowings or inflationary finance The present budget estimates that the revenue deficit will be considerably lower than the actuals of 1987-88. How could a change of such a magnitude occur ?

To answer this question we have to note that the revenue account deficit is the result of revenue expenditures exceeding revenue receipts Therefore, if revenue receipts increase at a faster pace than revenue expenditures, the revenue deficit will fall Compared to the revised estimates for 1988-89, receipts are expected to increase by 22 percent and expenditures by 10 per cent in the coming year These figures are very different from the experience in the present year Going by the revised estimates and comparing them with the actuals of 1987-88 we find that revenue receipts and expenditures have grown by 16 and 17 per cents respectively Thus what has been envisaged is a major deviation from trends in both revenue receipts and expenditures

One consequence of a lower revenue account deficit is that the budget has been able to show a deficit, although small, in the capital account also During the last few years the capital account has consistently shown a surplus indicating that the government has been using borrowed funds to meet its revenue expenditures in a bid to control the burgeoning overall deficit Since the revenue deficit has been lowered it has been possible to peg the overall deficit at approximately the same level as the present year's figure without using borrowed funds for day to day expenditures The capital account now runs a deficit as it should but this deficit should ideally be financed partly by the savings of the government-i.e by current account surplus Given the secular pressures and government finances this was of course not possible But some steps have been taken in reducing the current account deficit which is extremely welcome

But, as it appears from the budget, the government may have become too sensitive to the criticism of an increasing deficit It has completely overlooked the fact that 1988-89 is an year of exceptional growth of about 9 per cent with the sensitive item of foodgrains set to achieve record levels of production In this year, more than any other, the economy could have taken a larger deficit without serious demand pull inflation Using the calculus of the Chakravarty Committee on

the monetary system, we can say that a growth of national product by 9 per cent could allow for non-inflationary growth in money supply by as much as 18 per cent, It appears that by its own logic the government has missed an opportunity to have a bold budget in the background of a very good production year.

Receipts

As already indicated, the growth of revenue receipts has been placed at 22 per cent compared to 16 per cent achieved in the current year. A major part of such a remarkable change, unfortunately, is the consequence of budgetary reclassifications and therefore does little to tackle the serious problem of government dissavings. The accruals to the fund used to stabilise oil prices and the reserves of the public sector undertakings have been reclassified as revenue receipts This has added Rs 2, 800 crores to the revenue receipts and consequently account for the decline capital receipts in 1989-90. Whether such a reclassification was justified or not is a debating point for accounting pundits. The economist can only note that such changes do not have any substantive effcts on the economy.

But the tax proposals announced by the Finance Minister are of substantive importance. Expected to yield Rs 1287 crores, the new taxes mark a break from the pattern followed in the last five years during which additional resource mobilisation through fresh levies was kept at modest levels. Compared to last year, the additional taxation in the 1989-90 budget is more than double. The proposals for increased taxation have come in for criticism in the press But, in our opinion, they mark a positive aspect of the budget.

The direct taxes have been more or less untouched. The lower bracket has received a minor relief of 5 per cent and the higher income brackets have now to pay an additional 3 per cent surcharge. The net effect, an additional Rs. 500 crores, would be used to finance the new employment programme named after Jawaharlal Nehru This is welcome.

But the important change is in the indirect taxes notably excise duties, In contrast to earlier budgets, the excise duties on consumer durables have been increased. Scooters, cars, television sets and computers would be taxed at an increased rate. The rapidly growing consumer durables industry could have taken a higher dose of indirect taxes. The list could have been broader to include refrigerators, VCRs, etc. The expanding office automation industry could also have been taxed without slowing down its growth rate, so that part of the benefits accruing to the industry is distributed to other sectors as well. The new indirect tax-the inland travel tax-is an experiment worth a try The higher excise duties on habitual necessities like cigarettes and pan masalas can hardly be objected to. What is perhaps questionable is the heavy excise burden placed on iron and steel. Excise hike on iron and steel range between 40 to 150 percents and are expected to net Rs. 150 crores.

These being basic goods, their cumulative impact on costs on other industries and hence on prices would not be insignificant once the cost multiplier works itself out through the input-output system. Finally, the revenue losses resulting from concessions and rationalisation on the customs duties appear to be marginal and largely confined to imports for technological upgradation.

Expenditures

The budget envisages not only a marked increase in the revenue receipts but also estimates an equally dramatic deccelaration in revenue expenditure. compared to a 17 per cent increase in the current year, revenue expenditures in 1989-90 are expected to increase by only 10 per cent.

Such a remarkable change is due, in part, to the reduction in defence expenditures. Compared to the revised estimates for 1988-89, defence expenditure in the revenue account will be lower by almost Rs. 400 crores Less would be spent on the army, navy and ordinance factories. With improved security climate in our neighbourhood this is perhaps a right step.

Besides defence the other two major items of current expenditures are subsidies and interest payments. Subsidies are expected to grow at the modest rate of 9 per cent. This may be an under-estimate because the Food Corporation of India may have to undertake massive procurement operations and carry larger stocks because of the bumper harvest expected. Similarly, export subsidies may cross the Rs. 1621 crore estimate To control the growth of subsidies budgetary allocations alone would not suffice. Some changes in rules, procedures, pricing etc. would also be required.

Economically the more meaningful aspect of total expenditure is the expenditure which is in the capital account This expenditure indicates the amount spent, directly or indirectly, to build up the productive capacity in the economy in general and in the public sector in particular. The budget shows that compared to the revised estimate of 1988-89 capital expenditures would grow by only 4.2 per cent next year. Not only is this far below the growth of 15 6 per cent for such expenditures in the present year, but, taking account of inflation, would imply that budgetary support for capital formation in the public sector would fall in real terms This would mean that the public sector would have to meet their investment commitments through mobilising extra-budgetary resources like marketing borrowings or, and which is more likely, there would be a slowdown in the growth rate of capital formation in the public sector. This is neither desirable nor necessary given the fact that a good production year could have allowed higher public investments without the danger of inflation. The capital account deficit could have been larger. We may be missing an opportunity.

Of the poor, for the poor

According to this PIB feature, the budget proposals are oriented towards promoting productive employment and it aims at a direct transfer of resources from the income tax paying rich to the rural poor. It is a budget demonstrating government's firm commitment to eliminate poverty according to this feature.

"A DIRECT TRANSFER OF RESOURCES FROM the income tax-paying rich to the rural poor", was one comment which summed up the essence of the 1989-90 Union Budget Containing concrete measures to ensure that the weaker and vulnerable sections of society share the fruits of growth, the budget aims at promotion of social justice, fiscal stability and keeping up the tempo of industrial growth and modernisation Reiterating the Government strategy of direct attack on rural poverty through various schemes, the budget provides a massive allocation of Rs. 1, 711 crores for generating rural employment

The Budget proposals are oriented towards promoting productive employment, protecting the consumption standards of the poor, curbing non-essential-particularly import intensive-luxury consumption, providing relief to lower level income-tax payers and encouraging prudence in management of public expenditure.

Frontal assault on poverty

A new programme for rural employment named Jawaharlal Nehru Rozgar Yojana with a separate provision of Rs 500 crore will allow fuller employment opportunities to atleast one member of each family living below the poverty line in the 120 most backward districts. Rural Landless Guarantee Programme (RLEGP) has been earmarked Rs. 681 crores and another Rs. 530 crores will be made available for the National Rural Employment Programme (NREP). Under these programmes 244 million mandays of employment will be generated during 1989-90. It has also been proposed to merge the NREP and RLEGP into a single programme and to decentralise its implementation.

Rs 377 crore will be invested during the year to assist 29 11 lac rural families under the Integrated Rural Development Programme alongwith a Group Insurance scheme for the beneficiaries. Thirty percent of the beneficiaries will be Scheduled Castes and Tribes and another 30 percent women. Under the Accelerated Rural Water Supply Programme 1.4 lac villages will be covered by 1989 and another 17,500 villages will be covered during 1989-90. Rural electrification will cover 4 51 lac villages by March 1989 thereby energising 76.7 lac pump sets.

While additional employment will help poor households to raise their standards of living, a more direct effort at improving the condition of women and children has also been proposed A new programme for free distribution of sarees to destitute women is on the agenda. The ongoing Integrated Child Development Services Programme will be expanded considerably to cover 500 more blocks At present 1700 blocks are covered, This programme is aimed at raising the health, nutrition and educational status of poor children. The total outlay of Rural Development, Social Services, Food and Subsidies will be Rs. 9374 crore in the budget

Accent on khadi and village industries

One of the major areas identified to channelise the benefits to the poor is Khadi, Village and Small Scale Industries. The concessions provided to these sectors bear a direct effect on the bulk of the population, which is either engaged in production in this sector or consuming the goods produced Excise rates on mechanised, semi-mechanised and non-mechanised industries alongwith cottage industries have been brought down Though this provision involves a sacrifice of Rs 11 crores to the exchequer, the actual profit in terms of relief enjoyed by the consumers of these products-majority of them belonging to the lower strata-will be manifold Raw wool to be imported by the Khadi and Village Industries Commission and the Khadi and Village Industries Boards of the States has been completely exempted from duty. Even synthetic blankets worth upto Rs 60 per sq. ft are being exempted. In the small scale sector excise duty structure is being revamped for the Match Industry Small scale concessions will be provided . to goods bearing the name of Khadi Commission and Boards will give additional thrust to

the marketing of the products. Furniture and Ceramic products are the new items added to this list.

Agro sector-wide concessions

The role of agricultural sector cannot be underscored if the objective is to raise the financial status of the majority. Credit provisions which constitute the back-bone of the agricultural sector is being strengthened in the current year's provision. The target for direct finance of the agricultural sector has further been raised to 18 per cent. Last year the public Sector Banks provided 17 per cent of the total outstanding advances to this sector. With the new provisions the total credit to be extended by Commercial banks, Regional Rural Banks and Cooperative banks will increase by over Rs. 4,000 crore.

Further the rate of interest on crop loans upto Rs. 25,000 has been reduced from 14 to 12 per cent. as per the Reserve Bank of India's instructions.

Income generation in rural economy calls for diversification of crops, better post harvest technology and processing of agricultural products. Keeping this in view a new package for this has been provided to revolutionise the food processing industry. The concessional rate of 15 per cent of excise duty on parts of refrigerating appliances, machinery and compressors are intended to be used in refrigerated vans meant for transport of food and dairy products This is in addition to the concessional import duty of 35 per cent enjoyed by the 34 specified items of food processing and packaging machinery.

A number of proposals have been taken up to ensure that mass consumption goods are kept outside the purview of upward adjustments Some widely consumed articles like sugar, tea, coffee, petroleum products, vegetable oils, vanaspati, cotton yarn and fabrics, jute yarn and fabrics and electric bulbs and fluorescent tubes will remain unaffected by the upward changes Similarly the existing exemption for newsprint and specified papers used in the printing of text books or other books of general interest remains unchanged

There has been a reduction of 14 to 15 per cent on excise duty on skimmed milk powder and condensed milk Excise duty on certain other food preparations like those of fish, meat, tapioca and sago in unit containers has been reduced from 15 to 10 per cent. Namkeen, such as bhujiya and chabena and ready to cook mix like idli-mix and vada-mix have been fully exempted from excise duty.

Welfare measures

A unique scheme with the twin objective of inculcating saving habits and simultaneously fulfilling the dreams of many to have a shelter over their heads has been introduced. Under the new Home Loan Account Scheme to be jointly operated by the National Housing Bank and Scheduled Banks, any person depositing Rs. 30 per month or Rs. 360 per annum or more will be eligible for a loan equal in amount to a multiple of the accumulated savings including interest. For the effective implementation of the scheme efforts are being made to link the scheme with registration for land or house allotment by public agencies. With its easy terms and conditions the scheme is likely to attract the rural population and eventually tapping the savings potential of the area.

The keenness of the Government to ensure that pension and pensionary benefits are sanctioned and paid promptly are visible in the proposals to simplify the disbursement procedures. The proposed simplification envisages that the two intermediary agencies of the Accountant General and District Treasuries will not be involved in this work which will be handled by new office of Chief Controller of Accauntrs (Pensions) in the Ministry of Finance. The entire work of pension payment and accounting thereof will be computerised Some fiscal relief on family pensions and a new scheme for retiring Government employees with certain tax concessions has also been proposed The budget has also raised pension for freedom fighters to Rs. 750 per month.

The year 1989 is a crucial year for the country in economic terms, since it is the base year for the Eighth Five Year Plan Apart from coming to grips with vital economic problems, the 1989 budget was obviously a demonstration of the Government's firm commitment to eliminate poverty from the face of the country as soon as possible □□□

Obituary

Shri S.M. Joshi Passes Away

In the death of Shri S.M. Joshi we have lost another grand old man of the freedom struggle era. Another chapter of self-less service to the people, of absolute devotion to highest norms of ethical conduct has been closed. Undoubtedly, S.M. Joshi ranked high among those patriots for whom position and power were not the first requisites to serve the nation. For decades, he worked silently, but tirelessly, for the masses, carefully avoiding publicity.

Hoping to receive his usual, valued contribution to Yojana, we came to know of his failing health only late last year, when we were informed that he was not in a position to stand the strains of writing a piece for us. We were, perhaps, ignorant of the fact that the end would come so soon. Yojana mourns the death of this great national leader and an illustrious social thinker whose writings adorned its pages and added to its credibility.

The Railway Budget for 1989-90

Krishan Anand

In this post analysis of the Railway budget 1989-90 the author questions the budgetary philosophy of the Railways i.e. surplus budget coupled with increase in freights. He poses a question to the Railways, whether they should bring about a development or should they go where the development is. It is time to switch to the former, says the author.

THE RAILWAY BUDGET FOR 1989-90 HAS proposed an 11 percent increase in goods traffic, parcels and luggage. It has also proposed to rationalise the freight structure by revising the classification of low rated commodities. This will help the Railways to mop up an additional revenue of Rs 876 crore and show a surplus of Rs. 144 crore during the coming financial year.

The Budget has however spared the passenger fares as well as the weaker and rural sections of society. It has also kept in view the special interest groups like the Kisans by exempting from freight increase certain low-cost commodities like vegetables, gur, gagree, edible oils, oil seeds, oil cakes, fodder, livestock and organic manures

Not only this, the Budget has for the first time taken care of the old passengers by offering a 25 per cent concession in the tickets to everyperson of 65 years and above if he or she is travelling beyond 500 km Travel concessions have also been given to certain distinguished groups of sportsmen and sportswomen.

Another notable feature is the introduction of 15 new trains out of which six will be daily, three tri-weekly, four bi-weekly and two weekly. 1989-90 will also go down in the history of the Railways as the year when the concept of superfast non-stop inter-city trains up to 500 km were started between Delhi and Kanpur. The will be the second phase of the Rajdhani type superfast overnight trains which were introduced in the country in early 60s between the national capital Delhi and Metropolitan cities.

But, many keen observers of the Railways think that there is nothing revolutionary or trend-setting in this year's Railway budget. They argue that last year also, the Railways presented a Rs 69 crore surplus budget In fact, for the last three-four years, the railways have been presenting a surplus budget Similarly, the ordinary second class passengers–the bulk of the passengers carried by the Railways–were spared the passengers' fare hike last year

The knowledgeable people have started asking: is there anything basically wrong with the functioning of the railways or their budgetary philosophy that they show a surplus budget and still increase the freights or fares or both ! Before coming to any conclusion, one has to look into the financial structure of the Railways

Since the presentation of the Railway Budget in the early 1920s, the Railways every year get a certain amount from the Central government as a loan for an indefinite period for its development work But, every year, the Railways pay interest on this loan known as Deferred Dividend Liability, Year after Year, the Railways also earmark a certain amount to the Railway Development Fund On the other hand, the Railways' earnings come broadly from two heads, namely from passenger fares and freight fares Every year, the effort is to balance these two sides of receipts and expenditure.

The former Railway Minister, Prof Madhu Dandavate, has rightly said that since 1980-81, the railways have been improving their earning capacity by carrying more and more freight. But, every year, they have to go for increased fares, either in freights or passengers or both, to meet their enlarged liabilities

Over the years, the Railways have been trying to raise resources through extra-budgetary sources also. In the share of the internal resources the railways' has been going up. It was only 25 per cent during the fifth plan. It increased to 42 per cent in the sixth plan and reached the highest ever 61 per cent during the seventh plan.

(Contd. on page 12)

Economic Survey for 1988-89

THE PRE-BUDGET ECONOMIC SURVEY FOR 1988-89 presented in Parliament on 24th Feb' 89 observes that the economy has recorded high growth during 1988-89 after recovering quickly from the adverse effects of drought experienced during the previous year. The annual inflation rate, which had exceeded 10 per cent at the end of March last year, had been brought down to around 5 per cent by January 1989. On the external front export growth has been running at over 24 per cent upto December 1988 in rupee terms. Despite this the trade deficit has increased since imports have grown even faster According to the Survey, the difficult balance of payments situation and continuing strain on public finance have posed the two major challenges of economic management during 1988-89.

The survey observes that relative price stability and the strong growth performance in 1988-89, which is expected to yield a GDP growth rate of over 9 per cent, have to be seen in the context of severe drought in the preceding year. These two years have demonstrated certain basic strengths in the economy. The first is the resilience of the economy despite severe weather stress and the second is the sustained growth performance in industry and infrastructure. In both years growth has been significantly higher than in earlier drought and post-drought years. Inflation rates, as measured by wholesale Price Index are also significantly lower than in most episodes of droughts. This is due to prudent management of the economy

Agricultural production

Agricultural production is likely to increase by over 17 per cent this year, while foodgrain production may exceed the target of 166 million tonnes The comprehensive measures were introduced last year in order to contain the impact of the drought. High levels of production have also been recorded in cotton, sugarcane and especially oilseeds. Recent policy initiatives in oilseeds and edible oils have succeeded in more than halving the level of edible oils imports within a year. However the stagnation in production of most pulses is cause for serious concern since pulses are a major source of protein for Indian consumers.

Industry & Infrastructure

In earlier post drought years industrial growth suffered from the adverse spillover effects of drought. During 1988-89 however industrial production recorded strong growth from the beginning of the year and the annualised growth rate was over 9 per cent upto November 1988, the last month for which data is so far available High industrial growth for the fifth year in succession reflects the positive effects of an ongoing process of industrial policy reforms aimed at promoting competitiveness, better capacity utilisation and cost efficiency in the industrial sector. A number of such policy initiatives have been undertaken during the past year. Some of these new measures will facilitate expansion of production within existing capacities while others are directed at encouraging the creation of new capacities Important steps have also been taken to simplify the administration of industrial policy and to eliminate procedural impediments.

Strong industrial growth during the current year has also been supported by the good performance of key infrastructure sectors such as coal, steel, cement, fertilisers, railways and power generation. Within the power sector, growth in thermal generation has decelerated this year mainly on account of the preponement of planned maintenance shut-down and backing down of some thermal plants. These had been postponed last year in order to maximise thermal generation at a time when hydel power was in short supply This year the deceleration in thermal power generation has been off-set by the spurt in hydel power generation.

The excellent performance of industry, advances in policy reform and fresh fiscal concessions extended during the year have been reflected in a bouyant stock market. As a consequence, the RBI index of ordinary shares rose to over 285 for the week ending December 31, 1988 Despite these positive developments on the industrial front, the virtual stagnation of employment growth in the organised sector and the increasing incidence of industrial sickness are continuing to cause concern

Inflation & price management

Despite the strong inflationary pressures which were generated by the set-back to agriculture in 1987-88, the inflation rate last year was contained at 10.6 per cent as compared to 21 per cent recorded during

the previous major drought year of 1979-80 Significantly, these inflationary pressures were also not allowed to spillover to the current year as is usually the case in most post drought years. As a consequence the overall inflation rate of the Wholesale Price Index, measured on a point-to-point basis, started declining even during the period of seasonal price increases during the earlier part of the year. There was temporary spurt in prices leading to a contra-seasonal increase of the price index during October and November as a consequence of floods in Punjab and Haryana, which disturbed food procurement operations and dislocated supplies. Subsequently the seasonal decline of prices was resumed and the annual inflation rate of the WPI had come down to less than 5 per cent by January

The containment of inflation during the past two years has been possible mainly on account of timely introduction of a range of anti-inflationary measures during the previous year On the demand side these included a whole range of steps aimed at financing the relief measures without allowing any undue increase in the budget deficit This facilitated the implementation of a policy of restrained money supply growth. On the supply side Government ensured adequate availability of foodgrains and other essential commodities through a vastly expanded Public Distribution System, the various employment programmes and relief operations Wherever necessary additional imports were undertaken to maintain adequate supplies as in the case of edible oils and pulses As a consequence of the successful foodgrain operations last year, food stocks remained low during most of the current year. A little over 2 million tonnes of foodgrains were imported in order to maintain adequate food security Good rains and a bumber kharif harvest have considerably improved the availability of foodgrains The position is expected to improve further with the arrival of a good Rabi harvest after March this year. With both agricultural and industrial production rising sharply to meet the surge in demand, the rate of inflation is likely to remain moderate.

Fiscal & monetary policy

According to the Economic Survey fiscal management during 1988-89 has been directed at restoring the momentum of growth in a post drought year and reinforcing the priority given to exports Important fiscal measures such as concessions to agriculture based activities, re-introduction of investment allowance, duty relief in selected industries and further incentives for export growth have all been directed at these two objectives. Restoring high growth also served as a guiding principle for overall financial management during the year. Thus Central Plan Outlay in the Budget Estimates for 1988-89 was stepped up by over 17 percent as compared to 1987-88, ensuring for the first time that four-fifth of targetted Central Plan expenditure in real terms has been incurred within first four years of the plan. At the same time budgetary support for the plan has been reduced from over 61 per cent in 1987-88 to around 56 per cent in 1988-89. The corresponding requirement of resource contribution by public enterprises has been stepped up from 39 per cent of Plan Outlay to over 44 per cent.

The overall fiscal policy stance of the government during the current year has been supported by a monetary policy which sought to provide adequate credit for accommodating the strong resurgence of growth while at the same time maintaining restraint in the growth of liquidity in the system. Thus M3 growth had been contained at around 15 per cent up to the middle of January. Nevertheless banks were able to accommodate a larger flow of non-food commercial credit in 1988-89 compared to 1987-88 because of the substantial decline in food credit.

The survey also reports a number of important developments relating to the interest rate structure and related institutional arrangements. The most important among these include the replacement of a ceiling interest rate for trade and industry by a floor rate and the termination of the Credit Authorisation Scheme, which required prior sanction of credit limits for bulk advances to the non-food commercial sector. Major institutional developments in the financial sector include the establishment of the National Housing Bank (NHB) as an apex bank for housing finance, the setting up of the Discount and Finance House of India (DFHI), the establishment of the Security Exchange Board of India (SEBI) and the launching of the Credit Rating and Investment Services of India Ltd. (CRISI).

Balance of payments

The balance of payments situation remained difficult during the year. The pressures rising from several adverse medium term factors discussed in earlier Economic Surveys were aggravated by a surge in the import bill during 1988-89. Policy measures adopted to promote exports have yielded good results during the last two years. The rupee value of exports increased by over 24 per cent upto December, compared to the corresponding period last year, on top of an estimated increase of over 26 per cent recorded during 1987-88. However the import bill has grown at an even higher rate mainly on account of the lagged effect of a shortfall in foodgrain production and edible oils last year, high demand growth this year, the sharp increase in international prices of imported metals, chemicals and edible oils and changes in the exchange rate.

Problems and prospects

The Survey draws attention to the need for more effective action to tackle the linked problems of the balance of payment deficit and budgetary imbalances in order to ensure strong, non-inflationary growth in the Eighth Plan. The recently published quick

estimates of national income for 1987-88 indicate that the savings rate continues to stagnate at around 20 per cent.This is largely attributable to a deterioration in savings by the public sector and specially the dissaving on government account which has been pointed out in recent Economic Surveys. Clearly a turn around in public savings performance is crucial for financing the levels of public investment necessary for continuation of strong economic growth This turn-around must come from both an improvement in the budgetary deficits of the Central and State Governments as well as increased surplus generation by public sector enterprises. The prospects of raising the savings rate also depends crucially on the continuation of high savings rates in the household sector. While household sector savings account for the bulk of savings in the Indian economy, an increasing proportion of this saving has taken financial forms. These healthy features of savings performance have to be preserved through appropriate policies for deepening the economy's financial structure, improving its operational efficiency and holding down the rate of inflation

On the balance of payments front the new Economic Survey again draws attention to the difficult medium term outlook which had been predicted by Economic Surveys of the past several years. The adverse factors contributing to these pressures include the decelaration in indigenous oil production, protectionist trends in international trade, uncertainties with respect to the flow of remittances from Indians working abroad, bunching of re-payment obligations on past loans from the IMF and other sources and the unfavourable climate for concessional external assistance Government has been attaching high priority to the promotion of export growth in order to relieve the external payments constraint The series of measures under-taken in recent years have yielded positive results. Exports grew by around 10 per cent in volume terms in both 1986-87 and 1987-88. During the current year exports grew by over 24 per cent in rupee terms or over 30 per cent in US dollar terms during April-December, 1988 compared to the same period last year However, imports have grown at an even higher rate and there has been a significant loss of foreign exchange reserves during the current year

Apart from a reduction in the overall savings-investment gap cited earlier, ensuring a viable balance of payments in the medium term would require continuation and even improvement in the growth of exports along with efficient import substitution. To assure the continued and rapid growth in exports it will be necessary to reinforce the present structure of policies aimed at enhancing the relative profitability of production for exports vis-a-vis the domestic market. Sustained and rapid export growth is the key to greater self-reliance in our balance of payments. Alternatives to this strategy would involve either a compression of the country's import bill for essential items, which could jeopardise price stability and growth or external borrowings at levels which could lead to unsustainable debt service obligations.

The recent surge in imports is largely explained by temporary factors such as the sharp increase in international prices of imported metals, chemicals and edible oils, large imports of foodgrains and edible oils on account of last year's drought and the strong rise in demand generated by strong economic growth during the current year. At the same time there is a danger that in some sectors capacities may be set up which are heavily dependent on imported inputs and components and where there is little domestic value addition if inputs and outputs are appropriately priced Corrective steps must be taken to discourage the creation and operation of such un-economic industrial enterprises and curb the growth of related imports.

The high growth of industrial production for the fifth year in succession, despite the prevalence of adverse drought conditions during three of these years, reflects the positive effects of a reduction in procedural impediments to industrial growth. It also reflects the on-going process of policy reforms in which our methods of economic management have gradually evolved away from case by case discretionary physical controls towards growing reliance on fiscal and financial instruments in regulating investment, production and trade .These reforms encourage better capacity utilisation, new capacity creation, technology upgradation, competition and more economic scales of production While the new structure of policies must be further improved to maintain the momentum of high industrial gorwth, more effective measures must be introduced to address the problems of slow employment growth in organised sector industries and the spread of industrial sickness

Among the infrastructure sectors, due importance must be given to power generation since the power constraint could potentially prevent the economy from achieving a high growth rate in the Eighth Plan period. Higher investments, better technologies and improvements in operational efficiency in the power sector will, therefore, continue to command high priority according to the Eonomic Survey. In this context quick investments in gas based power plants offered attractive opportunities for loosening the bottleneck in the power sector. The continuing rapid increase in demand for petroleum products could further aggravate the external payment situation if prices of imported oil rise significantly in the years ahead. To guard against this possibility we must deploy further price and non-price measures for conservation of energy in industry, commerce and transport while taking steps to expand the production and use of non-petroleum energy resources.

Looking to the future in agriculture, the Survey points out that performance in this sector is the

principal determinant of the level of living for almost three quarters of our population who continue to live in rural areas. It is, therefore, crucial to sustain the high rate of growth in agriculture which is expected during the current year. Frequent supply shocks as well as the low trend rate of growth in agriculture underline the importance of extending the coverage of effective irrigation and matching this with adequate deliveries of other key inputs such as quality seeds, fertilisers, pesticides, weedicides and credit The Special Programme for foodgrains production introduced this year which incorporates all these elements should be pursued vigorously The technology mission in oilseeds and other price and non-price policy initiatives in the edible oil economy have also yielded quick results in this year of bountiful rains. Steps must be taken to ensure that these gains are insulated from the vagaries of the weather in the future.

The relatively comfortable situation in foodgrains and edible oils this year also provides an appropriate background for framing a policy of food management for the Eighth Plan period and beyond. Today basic food self-sufficiency has been achieved with demand supply balance at the given distribution of income and some marginal imports in years of major shortfalls However, a substantial proportion of the population remains undernourished and below the poverty line Food policy perspectives for the future will have to take into account this changed situation. Adequate coverage of the genuinely vulnerable population under existing constraints of foodgrains availability and financial resources would require that subsidised food supplies must be more carefully targetted. At the same time food management policy should aim at containing the open market prices of foodgrains and edible oils within a reasonable range through market intervention operations by appropriate agencies for the protection of consumers in general.

Anti-poverty programmes like IRDP and employment programmes must be implemented vigorously to protect the vulnerable population till adequate growth of normal employment in agriculture, industry and elsewhere eliminates the need for these special programmes. However, the Survey emphasises that the ulimate long term solution for elimination of poverty lies in the rapid expansion of productive employment in all sectors of the economy. Investment plans and economic policy in general during the years ahead must therefore, be suitably oriented to give adequate emphasis to productive employment generation. □□□

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Out of its total earnings, share of the passenger fares is less compared to the freights. In fact, the Railway officials take every opportunity to argue that they are subsidising the travelling passengers. In this year's proposed Rs. 876 crore additional revenue, the major share will come from the heavy-haulage of bulk commodities like coal, food grains, steel and mines, minerals and fertilisers. They also argue that in the light of meagre funds available from the Planning Commission, the Railways are unable to take up new and socially more relevant development projects.

In the light of all these, the need is to start a national debate whether the Railways should continue to manage their finances in the traditional manner. Members in Parliament have however started looking into this contradiction of railways earning more and more from the freights and still taxing the economy. the need is to restructure the financial structure of the railways, better coordination between the Railways and other economic user ministers and a sympathetic attitude by the Planning Commission while allocating funds to the Railways The Planning Commission, at present grants funds for new railwaylines only if these are financially viable The railways say the new lines will be financially viable only after 10 to 15 years after their coming into being. The other high priority category for new projects is defence requirement These norms were fixed by the Britisher in view of their colonial philosophy These norms are continuing even after 40 years India attained independence. Railways are not an ordinary transport carrier of the country. They are an instrument to bring about social and balanced economic development in the country And they should be used increasingly for this purpose Two cases which immediately come to mind are the West coast Konkan Railway Line The project has not been approved for years together simply because according to railway surveys it will not be financially viable. But, the social cost of this project nobody has ever bothered to measure The project, if completed and completed quickly, will reduce the travelling time from the north to the south by at least ten hours, besides bringing about economic development in this unexplored and still backward region of the country Similarly, the Talchar-Sambhalpur line in Orissa could reduce the travelling time from the eastern to the western part of the state by nearly six hours. It can also bring about development in the tribal districts of the state

Once again, the question is: should the railways bring about development or they should go where the development is The Britishers for their own reason chose the second criteria The time has come to switch to the first criteria. Otherwise, the Railway Ministers will continue to present to the nation surplus budgets year after year and still ask for more and more increase in freights or passenger fares or both. □□□

Agricultural Development : Challenges ahead

Dr. S.S. Khanna & M.V. Pavate

In this article the authors discuss the agricultural production performance in recent years, particularly during the 7th Five year plan and the various challenges to be faced in increasing agricultural production by 2000 A.D. Weather, growth of irrigation facilities, fertiliser consumption, spread of HYVs etc. all play their part in the growth in production. Although the targets fixed for agricultural crops for the 7th plan could not be achieved during the first three years, the SFPP programme launched for the remaining years of the plan is expected to help attain the stipulated growth rate in agriculture and foodgrains productions.

THE ROLE PLAYED BY AGRICULTURAL DEVELOPMENT in the economy of a developing country like India, is very significant. Though the share of agriculture sector in G.D.P has come down from 59 per cent in 1950-51 to 31 per cent in 1986-87, it still plays a dominant role in determining the national income, year after year The Seventh Plan aims at annual average increase of about 5.0 per cent in the foodgrain production and 4 per cent in agriculture as a whole. This involves a considerable step up over the past trend of a little less than 3 per cent a year in gross value added. Indeed, the objective of attaining lightly over 5.0 per cent growth in gross domestic product is crucially dependent on achievement of agricultural production targets. The success on the export front during the Plan period too would depend to a great extent on augmenting agricultural production. Hence, it was necessary to evolve a strategy which ensured that agriculture received high priority in all policies and programmes. The postulated increase in output during the Seventh Plan is expected to result from increases in area under irrigation and high yielding varieties, a substantial increase in the consumption of chemical fertilisers and adoption of a system approach for consolidating the gains already achieved and extending the benefits of new technology to all categories of farmers and all regions. In the present paper. the long-term projections for agricultural commodities, agricultural production performance in recent years, particularly during the Seventh Plan and various challenges to be faced in increasing agricultural production by 2000 AD are discussed.

Long and medium term growth

The long-term growth of output in the agricultural sector has been 2 70 per cent annual from 1949-50 through 1986-87 Growth since 1967-68 (post-Green Revolution phase) at 2.76 per cent is slightly higher. There has been no slowing of growth in the early eighties In fact, taking triennium averages for the period 1979-80 to 1985-86, growth is higher at 3 35 per cent annual, but estimation of short-term growth trends in Indian agriculture is hazardous on account of the impact of the weather factor. In the recent period, a notable feature is the improved performance of rice In fact, the slowdown in wheat growth is compensated by the increase in rice growth Also pulses and oilseeds have been growing faster. An interesting and important feature of agricultural growth since 1979-80 has been that output change is almost entirely explained by productivity growth and hence growth of land as an output is minimal. Output growth since the Sixth Five Year Plan is 3.47 per cent compound annual and productivity growth 3.46 per cent. In the earlier phase (1967-68 onwards) more than a quarter of the agricultural growth was area based.

On account of climatic factors, agricultural output has fluctuated around a trend. Peaks in production are invariably higher than preceding ones. Recent of 1988-89 (E) peak to peak growth at 3.85 per cent annual is lower than the previous one (1983-84) of 4.09 per cent. While wheat and now paddy growth have given degree of resilience to the Indian agricultural economy, growth of oilseeds, pulses and inferior cereals is particularly affected adversely in poor agricultural years.

Performance during the Seventh Plan

The Mid-term appraisal of the Seventh Five Year Plan has pointed out that output growth was not taking place in the agricultural sector in the Seventh Plan. Bad weather in 1986-87 and 1987-88 has played a major role, but of greater concern was the slow growth of irrigation facilities and fertilizer consumption, a near constancy in the spread of HYVs and difficulties faced in the spread of cooperative credit In the areas in which irrigation was high, cropping intensity was not rising and the land constraint was not being released However, agricultural growth was spreading to the rice growing Eastern region

The Special Foodgrains Production Plan was initiated at the instance of the Prime Minister in response to these problems and designed to overcome these shortcomings The impact of the planning efforts has succeeded in keeping up momentum of the spread of rice productivity in the Eastern region noted in the Mid-term Appraisal The following figures show that in addition to the impact of the good weather the timely support of inputs has had an impact in U P and Bihar.

Rice Production in Kharif 1988-89

S No	State	Maximum Earlier Achieved	Target 1988-89	Expected Production 1988-89
0	1	2	3	4
1	U P	8 20	8 86	8 90
2	Bihar	6 07	6 07	6 30

Foodgrains Production

The performance of foodgrain production was slightly better in the first year of the Seventh Plan which showed about 95 per cent of the achievement of the target as compared to 90 per cent and about 83 per cent of the targets set for 1986-87 and 1987-88 The shortfall in achievement of targets during the second and third year of the Seventh Plan was of the order of 15.92 million to 27 69 million tonnes, respectively Crop production was badly affected in almost all the States during these years due to unfavourable weather conditions, particularly the drought in 1987-88.

The total foodgrains production touched new peaks in four States in the second year of the Seventh Plan i.e. 1986-87 These include Punjab (18 million tonnes), West Bengal (9.7 million tonnes), Jammu & Kashmir (1.4 million tonnes) and Himachal Pradesh (1.2 million tonnes). In the first year of the Seventh Plan, four States, namely Uttar Pradesh, Bihar, Haryana and Assam achieved record production but, showed decline in the second and third year of the current Plan. The States which did not show any improvement in the foodgrains production during this period are Gujarat, Kerala, Madhya Pradesh, Maharashtra, Karnataka, Orissa and Rajasthan. Of these States Maharashtra and Gujarat showed downward trend since 1983-84, because of the drought/unfavourable weather conditions. On the other hand, Tamil Nadu, Jammu & Kashmir and Himachal Pradesh maintained upward trend during the same period. The States in the Eastern Region like Uttar Pradesh, Bihar, Orissa and West Bengal are on the whole showing rising foodgrain production trends in the recent period, although there is some fluctuation on account of weather aberrations. As regards crop-wise production in the States, record rice production was achieved by seven States, namely, Assam, Haryana, Uttar Pradesh, Bihar, Madhya Pradesh, Orissa and Arunachal Pradesh in the first year of the Seventh Plan In the second year, Punjab and West Bengal crossed the earlier peak by achieving production level of 6 02 million tonnes and 8 5 million tonnes of rice respectively In the case of wheat, Punjab is the only State which reached a new record peak of 11 15 million tonnes in 1986-87. Record wheat production was achieved by Haryana, Punjab, Himachal Pradesh, Jammu & Kashmir and Uttar Pradesh in the first year of the current Plan The Third year of the Seventh Plan, i.e 1987-88 indicates poor performance mainly because of severe drought conditions in almost all the States

In the last two years of the current Plan, the SFPP has been launched with the determination to maintain the overall growth rate stipulated for agriculture in the current Plan In order to facilitate the farmers in the SFPP states to participate in the programme in a big way, several measures were introduced to assist them-chiefly mention may be made of reduction in prices of Nitrogenous fertilisers, reductions in the interest rates in respect of agricultural loans, establishing hundreds of new input distribution and procurement centres Against the target of 166 57 million tonnes of foodgrains during the current season (1988-89), it is likely that the production would far exceed the target and would reach the level of about 170 million tonnes

Oilseeds

During the Seventh Plan, the production of oilseeds is targetted to increase from the assumed base of 13 million tonnes in 1984-85 to 18 million tonnes by 1989-90 This implies a growth rate of 6 72 per cent per annum After the mid-term appraisal, however, the final year target has been indicated as 16-18 million tonnes to be achieved by 1989-90 The production of oilseeds is likely to exceed the target of 15.65 million tonnes during the current year

Sugarcane

Sugarcane production has moved up significantly from the level of 154 25 million tonnes in 1980-81 to 182-48 million tonnes in 1986-87 The annual growth rate of sugarcane production based on triennium average for this period was 2.20 per cent, while sugarcane productivity recorded a growth rate of 1.38 per cent The sugarcane production, however, made a quantum jump of 11 83 million tonnes in 1986-87

over the preceding year. During the current year, sugarcane production would be around 210 million tonnes.

Cotton

During the period 1980-81 to 1986-87 the annual growth rate of cotton production was 1.47 per cent while productivity showed a significant improvement registering a growth rate of 4.48 per cent. The production of cotton maintained a steady growth during 1984-85 and 1985-86 and thereafter it showed a downward trend in 1986-87 and 1987-88 due to bad weather conditions and pest attack/diseases. During the current year (1988-89), the production of cotton would be around 9.50 million bales of 170 kgs.

Jute & Mesta

In the recent years from 1980-81 to 1986-87, annual growth rate of jute production and productivity were 3 5 per cent and 3 1 per cent per annum, respectively As regards performance of jute productivity in the Seventh Plan period, the first year of the Plan i.e 1985-86 recorded a new peak production of 12.65 million bales of 180 kgs each as against the previous peak of 8.37 million bales in 1981-82 indicating a big jump of 4 28 million bales The prodcution fell to 8.6 million bales in 1986-87 and is expected to further decline to 7.0 million bales in 1987-88. Production during the year 1988-89 would be around 7.10 million bales which would be lower than the target

High Yielding Varieties Programme

The expansion of area under HYVs of cereals continues to be one of the main points of the strategy for increasing foodgrain productin in the country The achievement in the coverage of area of HYVs in the first three years of the Seventh Plan fell short of the targets set for these years The achievements/likely achievements in the first three years of the current Plan would be 55.42, 54.04 and 55.00 million hectares respectively The downward trend indicated by the decreasing coverage by HYV is mainly attributed to the continued dry spell over large areas. It is expected that the target of 65 million ha. is likely to be achieved during 1988-89 due to exceptionally good weather conditions.

Fertilisers

The fertiliser consumption in the country has been showing steady increase in the recent years The consumption in terms of nutrients (NPK) increaed from 8 4 million tonnes in 1984-85 to 8.74 million tonnes in 1985-86, and was stationary at 8.4 million tonnes in 1986-87 However, the anticipated consumption during 1987-88 is likely to be only 9 01 million tonnes against the target of 10.30 million tonnes. During 1988-89 it is expected that the target of 10.20 million tonnes would be exceeded. The original target of fertiliser consumption of 13.5-14.0 million tonnes in 1989-90 has been scaled down to 12 3-12.5 million tonnes after the Mid-term Appraisal of the Seventh Plan

Plant Protection

Consumption of plant protection chemicals (technical grade) increased from 52, 000 tonnes in 1985-86 to 72,000 tonnes in 1986-87 and is estimated to reach a level of 1.21 lakh tonnes during 1987-88. The target of consumption of 75,000 tonnes of technical grade material fixed for 1988-89 is likely to be exceeded.

Irrigation

In the Seventh Plan, the target of additional area for utilisation of irrigation potential has been fixed at 10.90 million hectares which works out to an annual average of 2.18 million hectares. In the first two years of the Seventh Plan, the aggregated achievement is estimated to be of the order of 2.59 million hectares of additional area covering an annual increase of 1.80 million ha Thus, consequential slippage has taken place in the first two years of the Seventh Plan target. If the Seventh Plan target is to be achieved, irrigation development (utilisation) has to aim at an annual increase of 2.4 million ha. during the remaining years of the Seventh Plan.

Cooperative credit

The progress in the disbursement of short-term, medium-term and long-term cooperative credit has so far been much below the Plan expectations. The Seventh Five Year Plan has envisaged an increase in total disbursement of cooperative short, medium and long-term credit from an assumed base level of Rs. 3250 crores in 1984-85 to Rs 7070 crores by the terminal year of the Seventh Plan, i.e 1989-90. As against the targets of Rs. 3700 crores, Rs. 3900 crores and Rs 4275 crores for 1985-86, 1986-87 and 1987-88, the anticipated achievements are reported to be only Rs. 3200 crores, Rs 3500 crores and Rs 3700 crores respectively However, the shortfalls had been particularly pronounced in the case of Andhra Pradesh, Assam, Orissa, Rajasthan, Tripura, Uttar Pradesh and West Bengal

Projections for 2000 AD

Medium and long-term (perspective) planning becomes sine qua non for a country which has adopted planned development for her economic, social and scientific progress This is necessary in order to differentiate between the projects of short and long-term gestation period and also to plan investments accordingly "In the absence of a proper long-term perspective there is a danger that short-term and even medium-term plans and economic policies may be excessively preoccupied with pressing contemporary events, thereby relegating the task of structural reforms to the background In the process, the available growth, potential may not be fully realised Because of discontinuities and long time lags between investments and the resulting increase in output, the need for perspective planning in specific terms is particularly strong in the development of infrastructure like power, transport

and communications, scientific research, technical education as well as in sectors like major and medium irrigation, coal and steel where there are large gestation lags often extending beyond the period of any single five year plan "

An attempt has been made to estimate the projections for 2000 A.D in respect of foodgrains and commercial crops Although the targets fixed for agricultural crops for the Seventh Plan could not be achieved during the first three years, a Special Foddgrains Production Programme was launched to achieve the target of not less than 173-175 million tonnes during the last year of the Seventh Five Year Plan.

Assuming the average of last two years around 172 million tonnes and assuming the growth rate of 3.50 per cent duringk 1990-91 to 1994-95-2000 AD, the production of 239 million tonnes of foodgrains is expected by 2000 AD This would be higher by 9 million tonnes than the projection made by the National Commission on Agriculture (NCA) The domestic demand for foodgrains taking base level (1989-90) per capita availability estimated from figure for the years ending 1978-88, expenditure elasticity, medium growth of population (1 87 per cent to 1 99 per cent per annum) as per Expert Committee, growth in per capita consumption expenditure-2 28 per cent (corresponding to 6 per cent growth in GDP) works out to be 228 million tonnes, which is less by 11 million tonnes in comparison to production projection.

Challenges ahead

The growth of national income is determined mainly by trends of agricultural and industrial production. The gowth rates of agriculture achieved during the planning period show a substantial improvement on historical trends These growth rates, however, are averages which conceal substantial year to year variations caused by the aberrations in seasonal conditions The study of annual growth rates during the last 30 years indicates, approximately, that while the changes for industrial growth registering negative growth is very low (7%), it is quite high in the case of agricultural production being 35%, which in turn influences the annual growth rate in national income The national income would register a negative annual growth rate, approximately, once in ten years In other words, negative annual growth rates in agricultural production have occured almost once in three years, due to aberrations in weather conditions This situation calls for urgent action on two points viz , (i) the need for improving upon the existing technology for agricultural development to make it independent of weather aberrations (ii) the need for higher growth rates in industry and other sectors to neutralise the higher probability of negative annual growth rate in agricultural sector.

Irrigation-Potential/utilisation

Even after the full exploitation of all the available irrigation potential, about 50 per cent of the cultivated area will depend on rainfall. As of now, the rainfed areas constitute over 70 per cent of crop lands and contribute about 43 per cent of foodgrain productions. The improvement of productivity of the rainfed areas has thus a close bearing on the well- being of a large mass of the population. It is estimated that the gross cropped area that can ultimately be irrigated has been assessed to be 113 million hectares as against the possible total cropped area of 2000 million hectares on full development of irrigation potential. It is, therefore, necessary to develop the entire irrigation potential of 113 million hectares by the year 2010

It has been already indicated that there is a wide gap between the irrigation potential and its utilisation Some of the reasons for low utilisation are (i) Even in the case of certain irrigation projects which are completed, the laying of field channels is not completed, (ii) There are no central structures and measuring devices, (iii) Non-introduction of warabandi and night irrigation in the canal and distribution system, (iv) Lack of proper maintenance of canals and distribution system, (v) Lack of proper drainage in irrigation resulting in wastage.

The corrective steps are (a) The early completion of the projects in hand, (b) No new projects should be taken up before the completion of the ones on hand, (c) Better water management practices-Warabandi should be adopted, (d) Coordination between the Irrigation Department and Agriculture Department, (e) exploitation of groundwater resources in promising regions viz , Eastern M P , Bihar, Orissa, West Bengal and Eastern U P , and (f) Modernising the old irrigation systems by improving the channels etc Besides, greater stress should be laid on utilisation of water through shallow tubewells, field tanks, community tanks, check dams and through watershed management

In dryland areas programmes of soil and water conservation should be fully utilised for efficient use of water and its management In the areas having good quality water and abundant acquifar, programmes of minor irrigation should be launched immediately to utilise water through shallow tubewells, dug wells etc

[illegible]

The requirement of foodgrains by the year 2000 has been estimated around 240 million tonnes The achievement of this target will be made possible by increased use of fertilisers both under irrigated and rainfed areas and by improvement in technology The requirement of fertilisers by the year 2000 has been estimated at around 20 million tonnes and that of irrigation around 100 million hectares

All out efforts including factors like economies of scale, managerial efficiency, savings in transport,

handling and distributions, reduction in storage cost, elimination of sales tax and other local taxes on fertiliser price would go a long way in increasing the consumption of fertilisers.

High yielding varieties

It has already been seen that the coverage under high yielding varieties is not uniform in all the States Advantage at the global level for better germ plasm utilisation and effective breeding programme should be undertaken. Some of the problems which need attention are

(a) A number of plant diseases like blast and bacterial leaf blight and pests like brown plant hopper have become common phenomena retarding progress Suitable disease resistant varieties need be evolved

(b) The replacement of seeds of high yielding varieties is necessary after every three to four years in order to maintain high levels of productivity To achieve this objective, it is necessary to step up the production of certified seeds and make systematic arrangements for their distribution

Utilisation of credit

The available technology for the irrigated and rainfed areas is fertilizer oriented While the farmers have accepted new technology in irrigated areas and assured rainfall areas, such is not the case in vast areas of scanty rainfall This has led to higher utilisation of credit in the irrigated areas than in the rainfed areas

Agriculture research

The agricultural research system, which forms the bedrock on which agricultural development is to be built will need to change its orientation radically The research efforts in agricultural sciences, particularly its applied aspect, appear so far to have been heavily biased towards achieving the technical maxima This has been at the cost of taking adequate account of the financial or economic feasibility of the technologies developed. Physical input output relationship, rather than financial costs and returns, has been the prime area of concern of agricultural scientists This has resulted in a large corpus of research findings which have only little or fortuitous relevance for the farm community. It should be necessary to emphasise in this context that one element of real costs which is vitally relevant to the Indian situation where small and marginal farmers predominate, is the risk element

Agricultural research has made significant contribution in achieving "Green Revolution" in the North Western parts of the country and in enhancing yield levels in wheat and rice in many parts of the country There is, however, a wide gap between the technology available for the rainfed/dryland region and the technology adopted by the farmers in these regions. As a result the production in these regions swings far too widely, depending upon the seasonal conditions. A major thrust in the next decade would be on delivering acceptable technology to the farmers which would increase and stabilise the agricultural production in the dryland region.

Another area demanding immediate attention in the next decade would be the research effort in oilseeds crops With an objective of achieving self-sufficiency in oilseeds production in the near future, the Government of India has launched National Oilseeds Development Project (NODP) and also Technology Mission on Oilseeds (TMO) and Oilseeds Production Thrust Project (OPTP).

New frontier research areas like bio-technology would be given importance in the Eighth, and the Ninth Plans. A beginning has been made in research in areas such as production of new crops varieties, highly nitrogen fixation, genotypes resistant to diseases, pests, frost and moisture stress with the help of biotechnology tools. Efforts in these areas would be further strengthened by improvement in infrastructural facilities, manpower development and organisation

It has been experienced during the current Plan that there has been a greater shortage of nucleus and breeder seeds of recommended varieties for the various zones The State Agricultural Universities, therefore, in the next decade, would be concentrating on adequate production of these seeds, particularly of oilseeds and pulses In selected grain seed research areas, like hybrid rice, selected wheat strains etc., the country will need to plan for a major thrust and high capabilities on a global plan The other frontier research areas that would need special attention during the next decade include embryo transfer technology for the dairying sector, and use of plastics in agriculture

Institutional factors

It is estimated that in the year 2000, the human population will be little less than the 1 billion mark and the animal population will also have increased considerably. The per capita availability of land which was about 0 94 hectare in 1951 will decline to 0 33 hectare in the year 2000 Thus, the decreasing land man ratio poses a great challenge for optimising the use of land resources for different purposes

This has a direct bearing on the holding size in the decade to come The small and marginal farmers, who constituted over 72 per cent of the land holders, operated barely 24 per cent of the agricultural land. The average size of operational holding in the country shrunk to 2 hectares in 1980-81 compared to 2 50 hectares in 1970-71 which is indicative of the continuous pressure being exerted on limited land resource by a steadily growing population Average size of operational holding is less than 1.5 hectares in a number of States like Assam, Bihar, West Bengal, Orissa, Uttar Pradesh, Tamil Nadu and Kerala. Besides, the agricultural holdings are also badly sub-divided and fragmented in many of the States Further, consolidation of holdings has not yet been undertaken in most of the

Table 1

Crop Production Performance in Seventh Plan and production Projections for 2000 A.D.

Crop	1985-86		1986-87		1987-88		1988-89 *		1989-90	2000 A.D.
	Target	Achievement	Target	Achievement	Target	Achievement	Target	Anticipated achievement	Target	Projections
1	2	3	4	5	6	7	8	9	10	11
1 Foodgrains										
(i) Rice	63 50	63 83	65 00	60 42	64 65	56 43	67 95	67 95	72 50	100 00
(ii) Wheat	49 20	47 05	49 00	'5 58	50 51	45 10	52 32	52 22	54 00	76.00
(iii) Coarse Grains	33 00	26 20	32 00	26 33	32-32 5	25 84	33 00	35 48	34.00	41.00
(iv) Pulses	13 50	13 36	14 00	11.74	14-14 5	11 04	13.30	14 00	14 50	22 00
Total Foodgrains	159 20	150 44	160.00	144.07	160-163	138.41	166.57	169 65	175 00	239 00
2 Oilseeds	13 60	10.83	14.80	11 45	14-15	12.38	15 65	16 56	16 00	22 60
3 Sugarcane	191 00	170 65	185-190	182 48	180-185	201.00	195 00	210 00	217 00	290.50
4 Cotton	8 50-8 60	8 73	8 60	7.01	8 8	7 1	9 78	9.50	9.50	13 4
5 Jute & Mesta	8 65	12 65	8 50	8 63	8 6	6 9	9 20	7 10	9.50	12 6

(Million tonnes/Million bales-Cotton 170 kgs Jute & Mesta 180 kgs) * Based on Framework Action Plan

Table 2

Progress of selected agricultural inputs during the Seventh Plan and Target for 1988-89

Programmes/ Inputs	Unit	Seventh Plan target	1985-86		1986-87		1987-88		1988-89
			Target	Ach	Target	Ach	Target	Ach	Target
1	2	3	4	5	6	7	8	9	10
1 HYV Programme									
(i) Paddy	Million ha	32 00	26 50	23 57	25 80	23 48	26 42	21 00*	29 00
(ii) Wheat	,,	22 00	19 50	19 18	20 67	19 02	21 08	21 00*	22 00
(iii) Maize	,,	3 00	2 20	1 80	2 35	1 92	2 40	2 00*	2 50
(iv) Bajra	,,	6 50	5 30	4 99	5 94	4 68	5 90	5.00*	5 50
(v) Jowar	,,	6 50	5 30	6 08	5 85	4 94	6 46	6 00*	6 00
Total HYV	,,	70 00	58 80	55 42	60 61	54 04	62 26	55 00*	65 00
2 Distribution of Certified Seeds	Million qtls	11 74	8 00	5 50*	6 57	5 58	7 30	5 63	8 84
3 Consumption of Chemical Fertilizer									
(i) Nitrogenous	Million tonnes	9 10-9 30	6 35	5 82*	6 80	5 77	6 80	5 93*	
(ii) Phosphatic	,,	3 00 3 20	2 20	2 07*	2 40	2 11	2 40	2 26*	10 20
(iii) Potassic	,,	1 40-1 50	1 00	0.85*	1 10	0 86	1 10	0 92*	
Total-3	,,	13 50-14 00 £	9 55	8 74*	10 30	8 74	10 30	9 11	10 20
4 Plant Protection Material (PMG)	'000 tonnes	75 00	55.70	52 00	70 00	50 00	75 00	75 00	85 00
5 Area covered under Soil Conservation (Cumulative)	Million ha	36.30	30 96	30 48	31 22	31 22	32 07	32 07	

*Provisional

£ After mid-term appraisal, revised to 12 3-12 5 million tonnes

States except Haryana, Punjab and Uttar Pradesh. According to the National Commission on Agriculture, the extent of area under tenancy is significantly higher in wet areas (including irrigated areas) than in

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Commercialisation of agriculture and economic development

H. Basavaraja, S.M. Mundinamani & S.B. Hosmani

Commercialisation of agriculture is expected to raise the productivity and income of the farmers through adopting a series of new technologies. It can be measured in terms of crop surpluses, say the authors. To evaluate the impact of commercialisation via new technology on marketable surplus vis-a-vis economic development, the authors undertook a study which revealed that the marketable surplus was higher on HYV farms.

THE TECHNOLOGICAL BREAK THROUGH IN Indian agriculture in the form of 'Green Revolution' has brought about a spectacular increase in productivity levels. This has helped the country to move from a more or less self-sufficient and home-consumption oriented agriculture to a more commercially oriented agricultural economy.

Commercialization of agriculture is expected to raise the productivity and income of the farmers through adopting a series of new technologies like adoption of high yielding varieties, application of more chemical fertilizers, mechanisation, extension of irrigation facilities and by protecting the crops from pests and diseases. These improved practices have helped the farmers not only to produce more output per unit area, but also to generate crop surpluses. Thus, the level of commercialization of agriculture can be measured in terms of crop surpluses.

The crucial role of agriculture has received sufficient attention in the rapidly growing literature on economic development, but the role of crop surpluses in promoting such development has not been given adequate recognition. An effort to increase crop surpluses through commercialization is considered necessary not only to accelerate economic development but also to meet the requirements of food for ever-increasing population. Further, in any developing economy the producer's surplus of agricultural produce plays a significant role. This is the quantity made available to the non-producing population of the economy. The knowledge of marketable surpluses is considered necessary for a sound procurement policy and for adoption of an appropriate and flexible strategy for exports and imports. In the absence of a correct appraisal of available surpluses, the entire procurement programme for building up a buffer stock is likely to fail and the distributive mechanism based thereon is likely to collapse. A knowledge of the magnitude of the surpluses helps in the minimisation of price fluctuations in agricultural commodities. For these reasons, it is important to study the impact of commercialisation on marketable surpluses vis-a-vis economic development.

Role of Marketable Surplus

It is well known that the level of commercialization determines the level of agricultural production. For economic development of a country, an increase in production must be accompanied by an increase in marketable surplus. The rate at which agricultural production expands determines the pace of agricultural development while the growth in marketable surplus determines the pace of economic development. Therefore, predominantly agriculture based countries heavily depend upon the agricultural marketable surplus. It is in fact not the agricultural production, but the surplus it generates for the market that plays a pivotal role in the development of such a country.

Marketable surplus is the residual output left with the producer-farmer after meeting his requirements for family consumption, farm need (seeds, cattle feed) and payment of wages in kind. Marketed surplus is the quantity that is actually offered for sale in the market irrespective of the producer-sellers family and farm requirements. Therefore, marketed surplus may be more or less equal to the marketable surplus.

Marketed surplus of agricultural produce plays a vital role in the economic development of a country. For an under developed country, a significant rise in the marketed surplus is a pre-condition for achieving a rapid rate of industrialisation. If the increased production which is a result of commercialisation, does not increase the marketed surplus, it may well constitute a fundamental limiting factor in the tempo of economic development. The crucial significance of

marketed surplus in the economic development can be viewed from the following points.

(1) An increased marketed surplus resulting from commercialization helps in releasing labour force from agricultural sector to non-agricultural sector without causing a decline in agricultural output.

(2) It would contribute to capital formation in the agricultural and non-agricultural sectors Increased marketed surplus through commercialization raises the income of the farming group which in turn stimulates the demand for industrial products. This raises the profits of the capitalists and thus savings

(3) Export of marketed surplus helps in importing capital goods and other raw materials for initiating a programme of rapid industrialization

Thus, to sustain an increasing tempo of economic development, it is important to augment the magnitude as well as the flow of marketable surplus.

Factors affecting marketable surplus

The amount of marketable surplus differs from region to region and even in the same region from crop to crop. Main factors which determine the magnitude of marketable surplus are as follows.

(1) **Level of production:** Marketable surplus is greatly influenced by the level of production which in turn is determined by the level of commercialization

(2) **Nature of crops grown :** It is well-known that marketable surplus in the case of food-crops is mostly low as they are required by the cultivators to meet their own consumption. On the other hand, marketable surplus in the case of non-food crops is high.

(3) Consumption habits, cash requirements of the farmers, prices of food products and farm size, are some of the other factors that determine the level of marketable surplus.

Impact of new technology

Marketable surplus largely varies from region to region and within the region from crop to crop. It has a direct relationship with the level of production which in turn is largely determined by the level of commercialization. To study the impact of new technology (HYV) in wheat and jowar on the level of marketable surplus, a study was conducted in the Malaprabha Command Area, Karnataka . For this study, a total of 166 farms were selected on a multi-stage stratified random sampling basis. They were chosen from 15 villages spread over four talukas under Malaprabha Right Bank Canal Region (MRBCR), partly on the basis of size and partly on the basis of irrigation facilities. From each talukas two clusters of villages were included in the sample From each selected village 10 to 15 farmers who had grown jowar and/or wheat were selected on a random basis. They were later classified into small and large categories. The famers were personally interviewed to solicit the information required. A pre-tested and well structured schedule was used for the purpose.

Estimation of marketable surplus

The effect of crop variety on marketable surplus was assessed and the marketable surplus accruing from local and high yielding varieties on different size farms was compared. Marketable surplus was defined as follows:

$$M = D - T = (Q+R) - (H+C)$$

where,

M = Marketable surplus of the farm (quintals)
Q= Quantity of output of the farm (quintals)
R= Total kind receipts of the farm (quintals)
H= Quantity kept for home consumption (quintals)
C= Kind payments and other retentions (quintals)
D= Disposable produce expressed as Q+R (quintals)
T= Total disposals other than cash sales expressed as H+C (quintals)

Functional analysis was carried out to assess the impact of the selected independent variables assumed to influence marketable surplus. The following regression equation was fitted separately for jowar and wheat crops.

$$M=a+b_1F + b_2P + b_3L + b_4Y$$

where,

M= Marketable surplus (quintals converted into rupees)
F= Size of family (adult units)
P= Production (quintals converted into rupees)
L= Family debt (Rs)
Y= Gross income (Rs)

The marketable surplus as a proportion of disposable produce was higher on high yielding varieties (HYV) farms in all size groups and in both the crops compared to that in local varieties (LV) farms (Table 1). The surplus increased with an increase in the size of farms invariably in all cases. This suggested the contribution of HYV towards the increase in the marketed surplus in small as well as large farms both in jowar as well as wheat. The main reasons for this trend were: higher proportion of production and lower rate of consumption, especially on large farms. In the case of local varieties, the rate of home consumption was particularly high on small as well as large farms due to the preference patterns exhibited by the farmers They preferred local jowar, despite its high price The same logic is applied to wheat as well. If the marketable surplus from local varieties were to be increased, a change in the food habits of the people will have to be brought about through proper educational strategies.

So far as 'Marketed Surplus' is concerned, it increased even more rapidly with the introduction of HYV. In the case of jowar grown on small farms, the surplus from HYV was about 13 times more than that

Table 1

Pattern of receipts and disposals of local and high-yielding variety farms growing wheat and jowar (percentages to disposable produce)

Particulars	Jowar farms			Wheat farms		
	Small	Large	All	Small	Large	All
Production						
Local variety	66 43	91 22	84 31	76 13	92 06	88 26
HYV	77 12	96 44	90 12	88 20	96 70	93 90
Kind Receipts						
Local variety	33 57	8 78	15 69	23 87	7 94	11 74
HYV	22 88	3 46	9 88	11 80	3 30	6 10
Home Consumption						
Local variety	69 49	46 83	53 14	51 03	38 36	41 40
HYV	44 63	8 85	20 64	47 08	15 92	23 12
Other Disposals						
Local variety	9 78	18 06	15 75	23 87	23 02	23 25
HYV	11 70	19 67	17 01	17 02	24 86	22 32
Marketable Surplus						
Local variety	20 73	35 11	31 11	25 10	38 62	35 35
HYV	43 67	71 48	62 35	35 90	59 22	51 56
Marketed Surplus						
Local variety	2 71	12 94	10 13	7 20	11 20	10 70
HYV	26 43	37 38	34 01	16 77	31 91	26 97

from local varieties On large farms, it was 3 times more For wheat, the surplus rate of HYV was more than twice that from local varieties in the case of local varieties grown on small farms This required greater effort towards mobilisation of local variety surpluses into the market specially from small farms

The second objective of the study was to estimate and evaluate marketable surplus functions for jowar and wheat The purpose of the analysis was to identify the existence of structural break in marketable function between small and large farms and to assess the impact of crop variety on the size of marketable surplus

For identifying the existence of structural break in the marketable functions between small and large farms, four variables were considered-family size, production, gross income and family debt The application of Chowtest, showed that the above variables had an identical impact on marketable surplus functions of small and large farms There was no structural break Therefore, the impact of the aforesaid variables was examined on the basis of pooled data The results are presented in Table-2

The regression coefficient for family size in both the crops was found to be statistically non-significant It had no perceptible influence on marketable surplus The *regression coefficient for production* was statistically significant and very high in both the cases It revealed that an increase of Rs 100 00 in the value of production would generate marketable surplus of Rs 43 90 in jowar and Rs 51 80 in wheat. The regression coefficient for gross income was statistically significant in the case of jowar, showing an increase of Rs. 2.60 in marketable surplus for every increase of Rs. 100 00 in gross income In the case of wheat, however, this regression coefficient was found to be non- significant. The coefficient of regession for family debt was negative in both the cases, suggesting a decrease in marketable surplus of Rs 1 70 in jowar and Rs 2 40 in wheat for every increase of Rs. 100.00 in family debt

Table 2

Per farm marketable surplus functions for Jowar and Wheat

Variables	*Jowar*	*Wheat*
Intercept	45 157	10 365
Slope Coefficients		
Family Size	1 895^{NS}	1 753^{NS}
Production	0 439**	0 518**
Gross Income	0 026**	0 007^{NS}
Family Debt	-0 017**	-0 024**
R^2	0 65**	0.68**

** significant at 1 per cent level

* significant at 5 per cent level

NS-non-significant

The introduction of intercept dummy variable for crop variety in the pooled function revealed that the intercept crop variety dummy was found to be positive in both the cases of jowar as well as wheat It was, however, highly significant for jowar and indicated an upward thrust in the production and marketable surplus of this crop as a result of introduction of HYVs In the case of wheat, the coefficient of regression for crop-variety dummy was found to be statistically non-significant This presumably was due to the fact that HYV had not been introduced into this crop to the same extent in the study area. There was virtually no cultivation of high yielding varieties of wheat in the non-irrigated areas

Policy implication of the study

The findings of the study briefly discussed above, clearly show that the marketable surplus depends on a variety of factors, some of which are amenable to control in the short period The major policy implication that follow from the findings of the study are briefly stated below

(1) Production and disposals for home consumption were found to be the most important determinants of marketable surplus Therefore, the most effective way to accelerate marketable surplus and thereby economic development would be to increase the productivity of land by adoption of modern farm technology on the one hand and to decrease the consumption of local varieties *by changing the food habits of the* people, on the other.

(2) The functional analysis of marketable surplus showed a negative relationship with the size of family debt, specially in the case of wheat Therefore, special efforts should be made to reduce the incidence of debt by expanding and improving the existing institutional arrangements for credit. Such a

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Problems of RRBs

A.R.K. Hebbar

Regional Rural Bank is an institution for rural development. It can bring about remarkable development in rural sector, if the constraints in its functioning were to be removed says the author.

REGIONAL RURAL BANKS HAVE TO FUNCTION IN remote villages and help poor rural people who are the small farmers, retail traders, rural artisans, SC/STs and agricultural labourers and generally belonging to weaker sections of the society, who could not develop economically on account of lack of proper financial assistance Hence RRBs have been established by late Prime Minister Smt. Indira Gandhi, by RRB Act 1975 with partnership of Government of India,* State Government and Nationalised Bank (Sponsor Bank) in the ratio of 50 15:35 in the authorised capital. RBI is the licensing authority for the RRBs for opening more branches, and NABARD is the refinance authority to give funds to the RRBs for eligible advances made by RRBs. Thus there are five official agencies supporting the RRBs and RRBs have to conduct Board Meeting once in two months to get approvals and guidance from the Board. The Board consists of eight nominees from RBI, NABARD, State Government and Central Government (Non-Official) and Sponsor Bank The Chairman of the RRB is appointed by Ministry of Finance on the recommendation of the concerned Sponsor Bank choosing from the latter's executive cadre The branch is usually managed by a Manager, Field Supervisor and a Clerk and Messenger-cum-sweeper

RRBs are expected to collect their working capital by way of capital from Government and Sponsor Bank and further, the deposits from the people in the area they operate. The capital given by the Governments and Sponsor Bank amounts to an Authorised Capital of Rs. 1 crore. But initially, they are given only Rs 25.00 lakhs in the proportion of 50·15:35 Generally they adopt villages which fall within the radius of eight to ten kilometres for their financing activities The branches also have a Non-Public Business Working Day in a week to make efforts towards recovery and deposits. Normally the advances are far more than deposits because of refinance availed from NABARD and advances made out of refinance Refinance is becoming necessary because the deposit collection from the rural poor is a difficult task, as saving capacity of the rural poor is very weak. In order to improve their purchasing power only, RRBs are expected to give them adequate finance so that they improve their income and save and return the loan and make savings. But this process takes a very long time, say, more than a decade as the rural poor have to come out of old condition in which they were lying for centuries. This being the case, RRBs have to obtain deposits from prosperous clients, institutions and corporations situated in the nearby taluka or district centres and also Government and Semi-Government Agencies But in practice, it is observed that funds of the Government lie with the State Bank and most of the institutions and corporations do not like to keep money with RRBs, perhaps due to the fear that they are not liquid enough, so that, when demanded RRBs may not pay. This fear is unfounded as RRB is a Government Bank for all practical purposes But this requires a lot of awareness and realisation on the part of the depositors to keep money in RRBs because RRBs today can not make advertisement and Sponsor Bank or any Government Agencies do not speak about RRBs by way of recommending the deposits to RRBs Government Agencies do not appear to be concerned with the deposit requirement of RRBs They are concerned only with the lending programmes to be implemented viz IRDP and other Government Schemes for which RRBs should find resources either own or refinance. If perhaps it is known to enlightened public about the great role and objectives of RRBs in the development of the rural sector, perhaps people would have come forward to deposit money as it directly goes for rural development. Further, if the funds available with RRB is less and if the overdues are high, they do not become eligible for refinance. In such circumstances, any governmental programme or bank's own programme can not be implemented by the RRBs for want of resources. This gives rise to problems.

One more reason why RRBs fail to get funds from prosperous people, is that, these depositors do not get any benefit from keeping their funds with RRBs excepting the usual interest. RRBs have to lend to target group only. Target group means small farmers, ageicultural labourers who have pre-development

income not exceeding Rs. 4700/- at 1981-82 prices (which is translated into acreage ceilings for individual agroclimatick region in a state) in case of farm sector. In case of non-farm sector, it means village traders, village artisans and other people who have pre-development income not exceeding Rs. 6400/-. All the rest are called as belonging to non target group. As mentioned earlier, it takes fairly a long time to small farmers or rural artisans to return the loan of the RRBs excepting in case of minor irrigation loans, where generation of income is faster. Many times overdues in RRBs are becoming high and assets made out of the lending also are sold or not found or not maintained properly by the beneficieries. As a result, loans become sticky. Government Agencies at whose instance loans are given are not generally helpful in the matter of recovery and they are concerned more with the lending programme only

After the nationalisation, there has been rapid progress in the banking field and Commercial Banks invested nuge sum of money in the office premises in the rural areas, for staff and for specialised assistance (like ADB in State Banks) etc. Now recently the Service Area Approach has been adopted by the Banks at the instance of RBI and according to this, all people belonging to target group in rural areas coming under RRB branches are to be financed from RRBs only. The question therefore arises whether RRBs have adequate resources to cater to all target people in their areas. The RRBs by nature are fragile institutions with the small office, with the small number of staff, with inadequate specialised equipment for assistance. Hence, whether it is justified to put huge burden of loans on RRBs irrespective of their capacity to lend should be considered Whether it is justified to deprive Nationalised Banks/State Banks of their rightful lending to their villages (overlapping with those of RRBs) and transfer these beneficiaries to RRBs in the name of Service Area Approach (SAA) and burden RRBs out of all proportion ? Is this not a paradox that huge cost of investment of Nationalised Banks/State Banks suffer under utilisation and huge burden of rural lending is placed on fragile structure of RRBs in the name of Service Area Appraoch ?

Strangely there is no tears or hue and cry made by the Nationalised Banks/State Banks for being deprived of their right to lend to the beneficiaries of their choice in the rural sector, eventhough extensive expansion has been made by all Nationalised Banks/State Banks throughout the length and breadth of the country after nationalisation. It would have been fair play, if they had treated RRBs as a small brother in the area in the common venture of development taking proportionate share in lending commensurate with resources.

The RRBs also help the generation of income of the people who do not belong to target group under government schemes, but belong to target group of RRB. The RRBs have financed Minor Irrigation, Small Industries, Professional and other activities under its own schemes. This has helped to change the rural face in many parts of the country especially the Minor Irrigation which generates much income in the rural sector and which normally does not come back to the RRBs because the Governmental Agencies always put pressure on local leaders and prosperous clients (financed even by RRBs) for investment in NSC and Indira Vikas Patra. By canvassing resource for these, they have deprived the RRBs of the hard resources required for further lending in rural areas. RRBs are more and more pressurised for lending and further lending. But their efforts to collect resources even generated by their own lending is thwarted by Government Agencies. Perhaps, the solution is, to give RRBs Fixed Deposits the status of NSC. This will not only ensure speed in rural development lending by the RRBs, but also avoid unhealthy competition in the canvassing of NSC etc.

The Service Area Approach puts enormous strain on RRBs' lending capacity. There is also no alternative for RRBs, but to lend Hence it is evident that the entire target group in the area of the RRBs come to RRBs only and the record has shown that the repayment made by the target group is generally inadequate and not timely and hence the overdues will grow high in RRBs. The depositors are likely to think that this will affect the liquidity of the RRBs and they may not make further deposits with RRBs, in view of the RRBs' total involvement in lending to entire target group. This is also likely to shake the confidence of the depositing public in the financial soundness of the RRBs.

Office of the Grameena Bank in the distant rural areas is called Branch and the Officer-in charge is called as Manager. Thereby giving an impression that the branch is able to transact all banking business and the Manager is expert in all banking matters. Many times it so happens that designation turns the mind eventhough the banking transactions of the Grameena Bank Branch are confined only to rural advances and the Manager concerned is expected to make efforts to identify productive rural poor for the advances. There is no scope for industrial advances or foreign exchange business or any need to adopt sophisticated technology to assess the credit needs. In short, it is the easiest and simplest banking with only calculated risk which is in no way comparable to the risky city banking, commercial banking. Rural branch manager, should have proper training in rural areas either as clerk, or as field supervisor of RRB or if the officers, say, 25 percent are to be directly recruited, preference may be given to candidates from co-operative sector, so that when he assumes the change of Manager's post, he is likely to get full perception of people and problems and the techniques and strategies of resources mobilisation.

The District Commissioners can help the RRBs, in a great measure both in resources, as well as in recovery matters In their capacity as Heads of District Administration, they are also Chairmen for so many bodies and corporations, whose funds can be

kept in RRBs. The more interest the Deputy Commissioners take in the RRBs, the greater will be the confidence of institutions and corporations in RRBs. Even in the matter of recovery of overdues, if Deputy Commissioners' initiate measures against defaulters under the KACOMP Act and KPMR Act, the actions will have salutary effect on the defaulters and the quantum of recovery of overdues in RRBs will increase immediately Hence, it is possible for State Governments to help RRBs in improving its resources and recovery positions, if Deputy Commissioners take helpful attitude towards RRBs It will also follow, that if Deputy Commissioners support and help RRBs, other officials will also follow suit.

Another problem is whereas in the public sector banks, the achievements and advertisement of their schemes are made through a joint forum, in RRBs eventhough they do yeoman services to the rural poor, there is no scope for any type of advertisement through joint forum.

It is hoped that due note will be taken by the Sponsor Banks/Indian Banks Association of the role played by 196 RRBs in the country and the contributions made by them in the rural development so that atleast a joint advertising programme is suggested by them to the Banking Industry

The Kelkar Committee recommendations have been accepted recently and there is also no arrangement to know as to what extent the concerned authorities including Sponsor Banks act as per the Committee's recommendations It is hoped that RBI will appoint a small body in various regions to report about the working relations of RRBs with various authorities in view of the Kelkar Committee recommendations

It is also found that even after forty years of independence when most of the central institutions are having decentralised offices, decentralisation of powers and responsibilities, Reserve Bank of India's licensing policy, however does not seem to be in any way decentralised Even to open a small bank branch office in an area where there is a lot of potentiality for development, the RRB has to first of all get the proposal cleared from District Consultative Committee, then apply to NABARD Regional Office who have to forward to their Central Office, Bombay and who have to recommend to Reserve Bank of India, Bombay When there are so many Regional Offices of RBI at state capitals, and when RBI's own nominee is there on the RRB Board, it should be sufficient if the Regional Office of RBI takes the decision to give licence instead of sending proposals to Bombay only. When decision making is decentralised in so many fields, it is in the fitness of things that licensing also is denentralised, especially when it concerns RRB for whom Government itself has established NABARD as a Guardian. Why should not licensing powers for RRB be vested with NABARD who can take a pragmatic view of the needs of RRBs ?

The volume of funds that flows to the agricultural development through RRB should be more to ensure extensive and expeditious development in rural area. Perhaps when compared with the funds flow to the industrial sector or to the foreign exchange sector, what flows to rural sector through RRB may be very negligible. Now that 196 RRBs are functioning throughout the country if the flow of funds through RRBs is increased in volume not only can food production increase but also rural unemployment will be reduced to a great extent.

RRBs expect much from NABARD and for that matter, NABARD should be given more powers by RBI to execute its huge responsibilities of bringing about Agricultural and Rural Development. The powers relate to giving licences for RRBs to open branches at places of potentialities NABARD should play pivotal role in the Rural Development of the country like IDBI in the industrial field and EXIM Bank in the foreign exchange field. The RRBs should continue to enjoy the assistance, guidance and help from Government of India, State Government, Sponsor Bank, RBI and NABARD and they should be considered more as a service institution to rural poor than as a profit earning bank The losses of the RRBs should be shared equally by State Government and Central Government so that useful work is continued in the remotest villages Government Agencies also should evince more interest in the recovery and deposits aspects of the RRB and to extend assistance in forward and backward linkages to beneficiaries State Government also should see that, adequate transport and communication facilities are made available atleast in areas where RRB branches are situated State Government should also see that there is no overlapping fo credit

Inspite of the weaknesses in the structure, RRB is the only eminent institution which can bring about remarkable development in the rural sector It is not without significance that late Prime Minister Smt Indira Gandhi had established this organisation to bring the bankers close to the rural poor. It was originally intended to be a low cost institution with the local feel Though low cost concept now is not there on account of payment of higher scale of pay by State Governments, it should be seen that the local feel is maintained at any cost Because it is only when the bank staff who should belong to middle class and lower middle class come near the rural poor with sympathy, understanding and positive and co-operative attitude that the poverty alleviation programmes can be successful For this, the RRBs should be strengthened with more dedicated staff and with suitable recognitions and rewards so that an employee who sincerely works for the upliftment of the poor, undergoing all types of difficulties in rural areas is well rewarded

Dr D M Nanjundappa, Vice-Chancellor, Bangalore University, who is also a noted thinker, scholar and economist of the country, has opined that RRB, is essentially an Indian Model for the Rural Development

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Decentralised desert area planning in Saurashtra

Dr. B.M. Jani

In this article the author highlights the problems of the Agaria Community (Salt workers) in the desert area of Saurashtra vis-a-vis the overall desert area planning. The various committees and even planners have failed to provide sound norms for desert area development, the author feels. The 8th plan should give due weightage for the economic uplift of salt-workers as well as for desert area development.

DECENTRALISED PLANNING IS AN OUTCOME OF a concept named planning from below. Mainly, district level decentralised planning takes care of implementation of Minimum Needs Programme where macro level planning could not reach aspirations of the people The desert area of saurashtra region in Gujarat state is not covered under aimful extensive planning upto desired extent It has been neglected both by the state as well as the central Governments. The desert area of Gujarat is paying highest amount of salt-cess to the central Government and not receiving just amount for welfare schemes of 25000 salt workers working during the season. The present research highlights problems of Agaria community (Salt Workers) and overall desert area planning in Saurashtra as a Micro level planning exercise.

Retrospect

Serious efforts have been made by academicians and several government appointed committees to review or to suggest identification of norms for backward areas. These include Pandey committee at national level, Hathi committee and I.G Patel committee at Gujarat level in order to integrate state level and district level decentralised planning It has been observed from the reports that national level norms of identification of backward areas do not satistify to remove backwardness of sub-packets within a state or a district Hence, it is necessary to plan for such under developed sub-pockets with reference to area and community planning. Missing links in the reports inspire researchers for more extensive exercise to bridge the gap. Very scant attention is paid by reseasehers or planners to play for desert area development. However, guidelines for decentralised planning of Gujarat Model does not provide norms for desert area or special area planning Similarly, studies of Nanjundappa, Alagh, Mundle and Raj suggested planning process at district level but not suggested specific guideliness or schemes for desert area planning A study of Vyas, Shah and Bhatt extensively reviewed block-level planning process as a part decentralised planning at block level and highlighted limitations of block-level planning exercises Recently, Ghosh evaluated participation process of district level planning and carefully identified problems in the process. However, the present study touches neglected area of decentralised planning in Gujarat which includes desert area planning and community planning for those who are engaged in salt production. Perhaps, it is a new area for decentralised planning process which is opening new avenues for academicians, planners and administrators.

Objectives of the Study

(1) To identify problems of desert area development as well as of economic uplift of Agaria Community engaged in salt prodution

(2) To study missing links in the schemes of Minimum Need extended by the district planning Board.

(3) To justify a case in order to receive fair amount from salt-cess funds from salt commissioner, for welfare schemes of salt workers.

(4) To know feedbacks of the salt workers for Minimum Needs

(5) To suggest schemes for economic uplift of Agaria Community, and course of action for desert area development.

Methodology

The nature of the present study is an explorative one to identify problems and their probable solution

for policy implications of decentralised planning process. For this study, data both from primary and secondary sources are collected. The secondary data pertaining to salt productin, sales, marketing, cost and price of salt production, income and expenditure from salt-cess by the central salt department and expenditure incured by the district planning board of both Surendranagar and Rajkot districts through published and unpublished sources. The primary data pertaining to size of family, background to join salt-harvest, income and employment from salt-harvest, sources of subsidiary employment and income, system of wage payment, level of education and facilities available, informations about health services, drinking water, accommodation, consumption pattern from income, social expenses and indebtedness etc are collected through canvassing a schedule. Moreover, primary data of villages pertaining to pattern of land use, cultivable area, occupation of people, facilities received under the minimum needs programme are collected through personal visit of the villages exactly located on desert belt of saurashtra. 3-Tier Questionnaires are used for field investigation (1) Village level information (2) Taluka level information and (3) family inquiry of about 400 Agaria (Salt-workers) families in four talukas of desert-belt in Saurashtra. The data represents the calender year 1987. The first two questionnaires represent position of Minimum Needs at Taluka Vis-a-vis village level, whereas, the third one canvassed household inquiry of about 400 families in the villages located near desert in Saurashtra. For this, 10 purposive villages located near desert from each taluka were selected, and 10 families from each village were selected representing all sub-castes engaged in salt harvest. (10 families x 10 villages x 4 talukas= 400 sample size) In order to identify caste of the respondents, electoral roll in panchayat offices of the villages was used for unbiased sample. Due weightage was given in selection of organised and unorganised salt workers as well as nature of activity of salt harvest. However, commission agents, traders and brokers were not included in micro level inquiry. The collected data were classified and arranged in a tabulation form. Percentage analysis was used to analyse the data in the light of objectives of the study. However, Desert Area Planning Committee for the present study also arranged meeting at taluk level so as to prepare realistic schemes and to gain rich experience of local leaders and people.

Important Findings

(1) Desert area talukas in Saurashtra are semi-arid zones and hence they are permanently scarcity affected drought areas. There is a need to declare the four taluks of desert belt Viz. Dasada, Dhrangadhra, Maliya and Halvad as *'Special Backward'* area. Moreover, persons engaged in salt-harvest need to be declared as special 'Economically Backward *Community' irrespective of caste.*

(2) *656 of total families are living below the poverty line as per capita norms of expenditure prescribed by Dandekar and Rath.*

(3) *Unlicesed salt production and private trade of salt must be stopped by the state govern-*ment which created problems for unorgnised private salt-workers.

(4) The area under the present study is only substantial area in India, producing highest amount of inland salt and ultimately paying highest amount of salt-cess to the salt department of the central Government. Out of salt-cess collection for Rs. 5.02 crores during the last five years from Gujarat, the area under study paid Rs. 16 Lakhs annually (20%). With a regret to mention that no amount is spent for welfare activities of private salt-workers. However, whatever, the amount is spent in the area is limited for road development and transportation facilities as salt-traders are dominating in central Salt Advisory Board

(5) Salt Workers have to pay Rs 400/- per family per season for drinking water at the place of salt pans in the case of private salt workers which shows highest degree of exploitation of the workers. They need fresh water at their place of work, mobile medical van, Mobile fair price shops which are directly affecting them. All such real facilities need to be extended for their economic uplift.

(6) 100% school enrollment of Agaria Children is necessary in order to well equip agaria community for modern technology of salt production.

(7) Tent schools must be introduced in desert area as recommended by the Kothari Education Commission and Adult education Programmes should take care of need-based education of salt production technology for salt-workers. However, it is observed from the study that there is no relationship between level of education and size of return in salt-harvest

(8) Salt based industrialisation and development of agro-based industries can give a new shape to the area under study. For this, no private individuals will come forward. Massive investment should be made by the State Government. Moreover, the state government should prepare viable welfare schemes suited to Agaria community

(9) Central salt and Marine Research Institute should plan for technological changes in salt industry as its role has been limited only for chemical technology.

(10) Soil-testing laboratries and Gujarat Agricultural University should analyse different types of soil in desert areas for proper use of land which may help development of Social Forestry for ecological

(Contd. on page 30)

Labour-intensity of village industries -A case study

B. Bhagavan Reddy, S.V. Subba Reddy & P. Niranjan Reddy

Village industries have played crucial roles in employment generation and through it in the economic development of the country. To appreciate the role played by village industries in employment generation, the authors here present a study of the labour-intensity of village industries with particular reference to Pakala Mandal in A.P. Though the study presents conflicting results as to which industry is more labour-intensitive the author supports the analysts and policy makers that development of cane and bamboo industry is favourable for the Pakala Mandal.

VILLAGE INDUSTRIES HAVE A POPULAR appeal in the Indian economy due to scarcity of physical capital, unemployment and underemployment, regioal imbalances and disparities, inequalities in the distribution of income and wealth, unutilisation or underutilisation of rural resources, etc Therefore, the Government has accorded an utmost importance for the growth of these industries through five year plans and industrial policies because of high employment intensity. A number of programmes and schemes were designed and implemented for their development since the dawn of planning era.

Employment is a means to achieve growth with social justice It helps in the redistribution of income and wealth. To appreciate the role played by village industries in employment generation in recent times, it is necessary to study the labour-intensity in each of the village industries so as to suggest the measures that may be necessary for their further promotion. Hence, an attempt is made here to make an indepth study of the employment implications of the growth of village industries in Pakala mandal. The analysis is confined to number of persons employed; man days of employment; person hours of work, extent of use of hired labour, source of labour force, and labour-intensity.

Design of the Study

The Pakala mandal came into being during 1985 consequent on the introduction of mandal system of administration in Andhra Pradesh The Chittoor district has been pigeonholed into 66 mandals (revenue as well as Praja Parishads) in lieu of taluks and blocks. Now mandal is the administrative unit for revenue and development intents The process of planning has started from the mandal level. For overall development of the mandal, the rural industrialisation strategy should be firmly evolved after taking into consideration the existing industrial structure, resources, specific requirements and felt-needs of the public Thus there is a need to know the employment-intensity of each industry in the region so as to design a sound policy for the promotion of industrial employment in the mandal

The present micro-level investigation on village industries in Pakala mandal is an attempt in that direction since Pakala mandal is of nascent origin and no study is made so far by using plant level data. This helps in identifying which industry is labour-intensive. By incorporating the relevant strategies for the growth of labour-intensive industries in the ensuing plans of development at the mandal level, it is possible to enhance employment opportunities in the years to come

The industries included in the Schedule of KVIC Act, 1957 and such of those industries found in the Pakala mandal except bio-gas plants constitute the core of village industries for the present study Thirteen industries, namely, carpentry and black-smithy, ghani oil, cane gur, cottage leather, cottage pottery, cane and bamboo, lime, bakery, ban-making, palm products, collection of non-edible oil seeds, adda-leaf and bio-gas plants are located in the study

area as against 26 specified in the Schedule The bio-gas plants are family-centred rather than business-oriented Further, it is difficult to estimate the value of methane gas as it is meant for family consumption Hence, the other (12) industries are only used to mean as village industries in the present undertaking

Through pilot survey, about 714 units spread over 12 industries (after excluding bio-gas plants numbering 42) are recognised in the mandal The number of units in each type of industry varies greatly For the purpose of giving equal priority to all the industries, the population is divided into two stratas By using stratified random sampling technique with proportional allocation of two different sample sizes for different strata, 20 units from cane gur (506) industry and 42 from eleven (208) industries are purposely selected In certain industries, where the number of units are comparatively very low, one unit is chosen from each category of such industry While selecting the samples, the technology of production is also kept in view Thus, the units drawn into the sample represent all types of existing village industries in the study area

The data is elicited through personal interview method by administering a schedule specially designed for the purpose from sample survey In the absence of recorded information over time, the reference period is confined to 1987-88 only

Employment

Person years The 62 sample units spread over 12 inudstries put together provided employment to 271 persons (see Table 1) The average number of persons per unit is 4 37 when all the units are taken as a whole Among the industries, pottery accounts for the highest (8 86) number of persons per unit followed by cane gur (6 2), lime (6), cane and bamboo (3 25), ghani oil (2 71), etc While it is the least in each of collection of non-edible oil seeds, adda-leaf and palm products on an average

Person days If all the industries are put commonly, they work for 228 8 days on an average per year But the annual mean working days differ from industry to industry For example, three industries such as carpentry and blacksmithy, leather and ban-making continue activities for over 300 days Cane gur units provide employment for 28 days in a year. Cottage pottery, lime, bakery and adda-leaf create work between 130 and 200 days The balance of industries operate in the range of 250-270 days.

Person hours: Within the industries, cane gur and lime generate employment for a maximum of eleven hours each compared to others The lone adda-leaf unit works for 7 hours a day The remaining industries run at 8 hours On an average, all the firms as a whole create employment for 8 hours a day It may be concluded that the household industries are of small size and therefore, the person years, man days and man hours of employment are less. It is observed that the fluctuations in employment are significant across the industries and firms within a concerned industry

Table 1

Employment by Person Years, Days and Hours

Industry	Total No of units	No of persons	Average per unit: Persons	Man days	Man hours
Carpentry and blacksmithy	10	28	2 8	311	8
Ghani oil	7	19	2 71	270	8
Cane gur	20	124	6 2	28	11
Cottage leather	6	8	1 33	327	8
Cottage pottery	7	62	8 86	130	8
Cane and bamboo	4	13	3 25	265	8
Lime	1	6	6	200	11
Bakery	1	2	2	150	8
Ban-making	2	5	2 5	340	8
Palm products	2	2	1	275	8
Collection of non-edible oil seeds	1	1	1	250	8
Adda leaf	1	1	1	200	7

Source Sample Survey

Hired labour

Around 55 per cent of firms spread over six industries used hired labour out of 62 units and 12 industries respectively (see Table 2) Every unit of cane gur and the lone bakery firm has employed wage labour About 71 per cent of units in pottery, 43 per cent in ghani oil, 40 per cent in carpentry and balacksmithy and 25 per cent in cane and bamboo engaged in non-family members This type of labour is conspicuous in the rest of the firms

Table 2

Extent of Use of Hired Labour

Industry (1)	No of units using labour (2)	No of hired workers (3)	% Col 2 to total units (4)	% of Col 3 to total persons in each industry (5)
Carpentry and blacksmithy	4	8	40	28 57
Ghani oil	3	3	43	15 79
Cane gur	20	45	100	36 29
Cottage pottery	5	47	71	75 81
Cane and bamboo	1	1	25	7 69
Bakery	1	1	100	50 00
Total	34	105	55	39

Source Sample Survey

The share of hired labour in the total number of persons employed is 39 per cent, when all the firms are taken as a whole Among the industries, the non-family labourers constitute the highest (76 per cent) in

oittery (of its total persons) followed by bakery (50 per ent), cane gur (36 per cent), carpentry and balck-mithy (29 per cent), ghani oil (16 per cent) and cane nd bamboo (8 per cent). Though all the units have mployed wage labour in cane gur, the proportion of his labour in the total number of persons used is elatively insignificant. However, in the case of akery, it is somewhat high. The employment is rimarily confined to owner households as these ndustries are established to provide a means of ivelihood for the entrepreneur's family. Since they re small sized ones, the labour absorption capacity s limited Consequently, the extent of hired labour is estricted.

Source of employment

The hired labour force is drawn from everal sources as depicted in Table 3. In the vage labour, the share of the panchayat is the ighest (58 per cent) of all the sources The workers rom the village form 22 per cent 15 per cent of labour

Table 3

Source-wise Distribution of Wage Labour

ndustry	Village	Panchayat	Mandal	District	Total
			Source		
arpentry and lacksmithy	1	3		4	8
hani oil	-	2		1	3
ane gur	9	27	9		45
ottage pottery	12	29	6		47
ane and amboo	1				1
akery				1	1
otal	23 (22)	61 (58)	15 (14)	6 (6)	105 (100)

ote Figures in brackets indicate the percentage to total
ource Sample survey

orce belongs to the Pakala mandal The rest of the ersons are accounted for the district The single ired labourers in cane and bamboo and bakery hails rom the village and district respectively In the case f carpentry and blacksmithy, the wage labour is istributed over the village (one), panchayat (three) nd district (four) Pottery and cane gur each have mployed the labour drawn from the village, anchayat and mandal For ghani oil, the labourers re drawn from the panchayat and district It is vident that these industries almost employ locally vailable skills

Labour-intensity

The degree of labour-intensity in each industry is xhibited in Table 4

Capital-labour (K/L) ratio

Creation of a job in cane and bamboo would mean in investment of the lowest 100 whereas in ghani oil, t would mean the highest 10, 307 This shows that the atter requires nearly 103 times as much capital per worker compared to that of the former. A unit of employment can be created with less than 200 in pottery, ban-making, palm products and adda-leaf. In the rest of the industries, capital required per person is more than 2,600 except lime (576) and non-edible oil seeds (862) From the view point of K/L ratio, preference has to be accorded in the order of cane and bamboo, ban-making, pottery, palm products, adda-leaf, lime, non-edible oil seeds, leather, carpentry and blcksmithy, cane gur, bakery and ghani oils as capital requirement per worker increases in the same order. It is hoped that the growth of cane and bamboo would fairly curtail unemployment in the mandal.

Table 4

Indices of Labour-intensity (Index Number)

Industry	Capital labour ratio (K/L)	Capital-output ratio (K/O)	Labour-output ratio (L/O)	value added ratio (W/V)
Cane and bamboo	100	100	100	100
Carpentry and blacksmithy	2,593 1	1,500	66 67	93 42
Ghani oil	10,306 9	2,266 67	22 22	66 32
Cane gur	4,468 97	11 166 67	288 89	52 89
Cottage leather	2,372	1,000	44 44	111 05
Cottage pottery	137 93	800	666 67	71 32
Lime	575 86	1,300	266 67	138 16
Bakery	5 172 41	3,333 33	77 78	135 26
Ban-making	103 45	233 33	266 67	218 68
Palm products	172 41	266 67	177 78	118.16
Collection of non edible oil seeds	862 07	1 233 33	166 67	105 26
Adda leaf	172 41	1,100	744 44	52 63

Source Sample survey

Capital-output (K/O) ratio

The capital required per unit of output is the highest (11 167) in cane gur but it is the lowest (100) in cane and bamboo Therefore, it comes to nearly 112 times more in the former over the latter According to K/O ratio, cane gur, bakery, ghani oil, carpentry and blacksmithy, lime, non edible oil seeds, adda-leaf, leather, pottery, palm products, ban-making and cane and bamboo may be encouraged in the ascending order The reason is that the capital requirement per unit of output in these industries is declining in the order of presentation However, this criterion is open to a number of objections and suffers from all the deficiency of static criteria Hence it needs to be supplemented by other criteria (i e , incremental capital-output ratio) in order to form a sound basis for employment policy For want of data, it could not be included here

Labour-output (L/O) ratio

A unit of output generates maximum (744) employment in adda-leaf while it is the least (22) in ghani oil. The former creates approximately 34 times of employment above the latter Therefore, adda-leaf is labour-intensive as against ghani oil In the remaining

industries, the labour requirement per unit of output is above the base (100) leaving bakery (78), carpentry and blacksminthy (67) and leather (44) The adda-leaf has to be promoted from the point of view of resource endowments The ghani oil may be welcomed in labour scarce economies but it is a curse for Indian economy

Wages-value added (W/V) ratio

The ban-making with 219 came first before all the industries whilst adda-leaf by 53, the least place It presents that the former is labour-intensive compared to others In the balance of industries, the W V ratio is greater than that of cane and bamboo excluding lime, bakery, palm products, leather and non-edible oil seeds From the angle of not only generation of employment but also on consideration of equitable distribution of income, labour-intensive industries have to be selected for future development This is on account of existence of inequalities in the distribution of income and wealth between the urban and the rural areas Further wide gap prevails between the rich and the poor even in the rural areas Therefore, from the angle of W O ratio, ban-making has to be promoted as it reduces the gap in income distribution and thereby helps in achieving distributional justice

Conclusion

As pointed out in the literature, the indicators of labour-intensity are divided in identifying which industry is labour-intensive The K/L and K/O ratios show that the cane and bamboo is the highest labour-intensive of all the industries The L/O ratio reveals that the adda-leaf generates maximum employment among all the industries The W/V ratio presents that the ban making has much employment orientation out of all the industries Thus, the results are conflicting in deciding which industry is more labour-intensive In this context, it is to be noted that the analysts and policy-makers have given prime place to K/L and K/O ratios rather than others This is due to the over-riding consideration given to K/L and K/O ratios and therefore, here also viewed as such Hence, it may be concluded that the cane and bamboo has to be developed extensively and intensively This is also appropriate from the view point of resource endowments In this context, it is necessary to recollect the fact that the Chittoor district is bestowed with rich forest resources The bamboo trees are plenty in and around the mandal This strategy of development is also in tune with the policy of optimum utilisation of locally available resources □□□

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(Contd. from page 24)

and by directly assisting rural people, it has reduced private money lending in the countryside and has increased the productive capacity of the rural poor. He has also opined that through RRBs, regional imbalances can be reduced and this is a model worth encouraging, promoting and protecting. □ □ □

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(Contd. from page 26)

balance in the area

(11) Water-logging in desert area under the study need to be stopped not only to prevent land but also as a risk-reducing devise in order to make salt financing more viable by the banks and other finanicial institutions

(12) Railway administration should stop Block Rake Booking system which inhibits development of small Agaria as a piece-booking system of wagons suited to them, because of their annual average 400 tonnes salt is produced by private unorgainsed salt-workers Periphery railway or railway sidings at different points of salt production in derert need to be developed between Kharaghodha-Degam-Odu, Patri-Zinzuwada-Fatepur, Kuda-Malaniyed-Anjar and Halvad-Tikar run by Western Railway authorities. Present Kuda-Dhrangadhra meter guage railway need to be converted into Broad guage

(13) The government of Gujarat must construct desert area road from Kuda-Vachhada dada Zinzuwada-Sami-Radhanpur in order to reduce a road distance between saurashtra and Rajasthan about 150 Km Which may ultimatily help the government for conservation of energy in road traffic Morever, different points for loading of salt must be developed on their newly proposed road

Conclusion

It is not possible to formulate a plan at national level (Macro-level plan) which takes into account the specific detailed requirement of each district or sub-pockets of a state as India being large country with diverse economic resources and distinct political states. District Planning is the latest phase in the evolution of the decentralised planning process in India. It seeks to even out the dissmination of the benefits of economic development both among districts and within-districts in the states of Indian Union Due weightage need to be given in the draft plan of the eighth-five year plan for economic uplift of salt-workers as well as desert area development in saurashtra both by the state as well as the central Governments. At the time of financial allocation of the seventh plan geographical area of Rajasthan received sizeable amount but sub-pockets like Saurashtra area in Gujarat and other states need not be ignored by the planning commission. This study is a small effort but micro level planning to study damage caused by desert wind, expansion of desert saline land and permanently drought affected areas calls for considerable exercise. □ □ □

BOOK REVIEW

HANUMAN PRASAD PODDAH, Dr. Brajlal Verma Publications Division, Govt. of India, August 1987, Pp-162, Price 17.

Publications Division, Government of India, has brought out quite a good number of books on the distinguished persons who lived for and died for our country Sri Hanuman Prasad Poddar was one of such Illuminates. He was almost an institution; Gita Press Gorakhpur and Sri Poddar have come to be regarded almost synonymous names. Now Poddar is no more but his name through his dedicated services lives on; man is mortal and yet his foot-prints on the sands of Time are indelible Born on 17 September 1892 at Shillong (Meghalaya), Hanuman Prasad lived at a number of important centres of learning besides their being centres of commerce, such as Calcutta, Bombay, Banaras and others His family was permeated with relious rites and rituals at a number of levels. Religion thus overwhelmed him from the very beginning but his was religion that transcends all considerations of caste and creed, spirit has no religion, he used to say. He getting disenchanted with the glamour of Calcutta and Bombay sought a place where he could devote himself to religious living, Gorakhpur had the privilege of being selected by him He took charge of Gita Press and began editing the religious monthly periodical KALYAN, later on an English Journal KALYAN KALPATARU was also launched upon. These two periodicals began providing religious thoughts of the saints belonging to RAMAYANA, the MAHABHARATA, BRAHMASUTRA, and a host of others were brought out. These low-priced gems of Indian Piety and Philosophy became very popular throughout the country. He was a trijunction-TRIVENI-of knowledge, social service, and devotion. He was a good poet, a distinguished religious commentator, and a celebrated prose-writer. His religion and patriotism both had a wide embrace His publications are countless and, it stands to his credit, none are below the mark. On March 22, 1971 he bade good bye to his friends and the world. He is no more; Gita Press Gorakhpur Complex,. is doubtless an embodiment of the devoted and dedicated Hanuman Prased Poddar. He took part in various movements lauched by the Indian National Congress under the leadership of Mahatma Gandhi. Sri Poddar had good relations with Gokhale, Balgangadhar Tilak, Jawaharlal Nehru, Subhas Chandra Bose, Aurobindo and others. National leaders, Shankracharyas of the four *mathas* (centres) and his admirers mourned his passing away. Sri Prakash (then Governor of Gujrat), paying tribute to the departed soul inter alia stated: "...Our country, literature and society have suffered a setback by his departure. We can hardly find a person today in the world who could equal him in religious pursuits and patriotism. ..." Thousands are his aphorisms; one reads: "There are several paths to attain truth. You can proceed towards it through different ways ...The path you have decided upon is as right as those of other who have chosen different paths All have the same goal So, what is the dispute about." This has been the clarion call of Indian Culture over the centuries

Faultless printing, good paper, thick-cover, and easy flowing language are the distinguishing features of the book under review. It is sure to attract a wide readership.

Dr. Tara Charan Rastogi

IMAGES AND INSIGHTS By K.R. Narayanan Published by Allied Publihsers New Delhi PP 332 Rs. 150/-

The volume, as it is, affords in no uncertain terms, commendable glimpses of an intellectual whose spasmodic jorneying into the realm of letters is marked by progressive stages of an inborn brilliance that was innocent and natural enough in college days; became seasoned and polished during a distinguished bureasucratic career; presently seems to culminate as politic and philosophic in the midst of post-retirement experiences

The thirty and odd articles contained in this book, covering a chain of topics from the very common-place like the "Evening Walk" to the highly sophisticated like the "Relevance of Gandhi," are in other words the veritable spectrum of images and insights. Written over a long period of time, diversity is their mainstay with a *savour* that is spicy, readability that is stylish and substance that is intrinsically worth while.

Narayanan has been at the helm of vintage observation and in the midst of bitter experiences. And from these circumstantial gains he has chiselled out a rarity of original thought and opinion, sans-favour, sans-bias. Eventhough he calls Nehru a "historian who made history, yet he goes on to elaborate frankly, "as a historian and writer he had his limitations; he was not a professional historian and writer". While dwelling upon Nehru's greatness, he confines it to glimpses. And it is through glimpses only that he tacitly sums up the pervasive aspects of his personality, as for example, "the effortless care, with which Nehru organized even a minute detail into a human situation, was one of the marvellous characteristics of his many-splendoured personality".

The over-all finesse of many other write-ups included in this volume is definitely quite a thing to reckon with for a sensible reader. And going through will be well nigh worth it. It is a well-produced volume fit to be treasured for ever.

(R.P. Rahi)

"BASICS OF DOCUMENTATION"— A REVIEW

A little exercise of that rather uncommon gift, which by a strange perversion of language is called 'common sense' will show that the handy booklet titled "Basics of Documentation" edited by Chandra Kannapiran et al will serve as a vade mecum for any one desirous of venturing into the vast store-house of documentation and to specialise in that important discipline It will help the reader to gain a kaleidoscopic view of what is all meant by the term "documentation", and how it helps to bring about social change the world over

In the 7 sections of this book, the authors have attempted to provide as much factual information, data and illustrations as could be possible in the realm of documentation The illustrations portray vividly the topics dealt with and leave behind indelible imageries on the minds of the readers which will linger for a long time This is perhaps an essential factor which is making the book more and more popular

On the huge documentation gap in the world today, the authors say "Often documents are stored where they are least needed. Modern communication techniques (the computerized data banks of multi-nationals and the use of tele-communications), while increasing tremendously the number of information items processed every day in the world, have also rendered documentation more alienated from the local situation Communication is increasingly becoming concentrated in the hands of a few The selection of information to be shared at the mass level is made by a restricted group of persons, the high priests of today's mass culture "

The booklet deals with concepts like the power of information, methodology of storing, documentation centres, sources, collection, selection and dissemination of information, classification, cataloguing, indexing, storage, retrieval and networking and even speaks of the latest trends like audio-visual documentation and use of computers in this line of work Indeed the reader will traverse the entire gamut of the science of documentation, the alpha to omego of this important faculty Nor are other essential and useful information lost sight of, such as, major training centres in and outside the country, important journals and newsletters on documentation, audio-visual production list, materials for health documentation centres and useful contact addresses.

Dynamic documentation work dealing with elements in a larger societal context of continuous transformation is said to arise from processes of change and renewal. The views expressed by the authors on the functions of a documentation centre go to strengthan this point of view "An important function of a documentation centre is to seek to correct misinformation in any area. Since documentation centres are in a position to get first hand information from the action-oriented grassroots level groups on the one hand, and policy makers on the other, they are in a good position both to analyse a specific issue in greater societal context and to accurately document events. This is one of the foremost duties of documentation centres. These centres should be store houses of primary information and also be capable of knowing the changes at the higher level. Documentation Centres must be the links at both levels to continue their militant task."

There is another side to the coin. The authors do not fail to point out one or two drawbacks in the computerized system of documentation which presently is being pressed into service the world over. "The use of a computer may create an unacceptable distance between the enquirer and the information worker. The informality which many information centres try to create will be destroyed if in the enquirer's eyes the information worker is seen as an official using an 'official' computer terminal. The information worker will become more passive and be merely seen as a person who operates the machine If the enquirer and the information worker sit side by side in front of the video display unit (VDU), the computer will completely take over the interview."

The declared purpose of bringing out this publication, as set out in the preface is "to meet the practical needs of the small information centres We will consider this publication a success if it results in the formation and functioning of many information centres much closer to the community all over the development world "

Written in lucid style, the book would prove to be popular both with the knowledgeable and the uninitiated The 9 appendices would be of immense help to a lay reader interested in knowing the relevance and scope of the subject "Nuggets in a nutshell" is what the vivacious publication offers to gourmets of this discipline. This glossy covered booklet is moderately priced and is published by the Voluntary Health Association of India (VHAI), 40 Institutional Area, South of I.I.T., New Delhi 110016

J.R. Victor Karunan

K.P. Kannan, Cashew Development in India: Potental and Constraints, Agri-cole Publishing Academy, New Delhi-24, 1983. pp. viii + 152. Price Rs. 100 (U.S $ 20).

Not many studies are available dealing with the total economy of a particular commodity. Cashew has been an important commodity in which India was holding a monoply position in the world Cashew Kernels Trade However, the pre-eminent position enjoyed has been declining in the recent years due to competition from other countries and due to lack of foresight by the people dealing in this trade. Hence a detailed study of such commodity not only gives lessons regarding its production and marketing performance but also can point to the various short comings in its trade In this context, the book under review is a welcome addition that seeks to examine the problems and prospects of cashew in all its aspects of cultivation, marketing processing and world's trade.

Chapter 2 examines India's present role in the world trade in cashew, and the prospective trends in demand in the existing cashew-consuming countries and in the potential markets like Japan, in which the levels of income are already high and steadily rising. One of the

special characteristics of the cashew processing industry is its very low capital intensity; and this has facilitated the creation of higher capacity in the industry than is warranted by the available quantities of raw nuts. Regulations and restrictions on the supply of imported raw nuts appear to have only created additional problems, without helping to achieve the objective for which they were introduced Chapter 3 therefore reviews the factors affecting the imports of raw nuts and its distribution among the processing units.

To cater to the rising demand from the existing and potential markets, India will necessarily have to rely largely upon indigenous production of raw unit. In chapters 4 & 5, the author has dealt with the trends in cashew cultivation and inter-regional variations and factors governing the availability of domestically produced raw nuts. In this context, it could have been better if the author has given the various marketing costs through various channels existing in different states and the actual prices received by the producers. For increasing the domestic production the author has listed various short and long run measures in Chapter 6. Surprisingly, the author has failed to mention about the capital requirements and does not come out with a firm conclusion about desirable size of the plantation and the policy to be followed in this regard

Chapters 7 & 8 deal with the problems within the cashew processing industry. Author argued that there is little development in technology over time (except minor changes). It would have been very useful had author presented and compared India's prevailing technology vis-a-vis other cashew processing countries. Despite high levels of profitability in cashew processing, the level of wages of workers has been quite low and conditions of work appallingly poor. Organisation of workers has not been successful in securing even the minimum wages fixed by the Government, instead, the workers in Kerala have experienced an erosion of the quantum of employment due to diversion of processing activity to adjacent States, particularly Tamil Nadu. have been the major reasons for the shifting of the industry from Kerala, even though the wages paid in the cashew processing sector in Kerala are among the lowest in the State.

The last chapter entitled "Concluding Observations" is infact nothing more than an abstract of the book. The utility of the book would have been enhanced had the author given concrete measures that have to be taken for improving the Cashew industry. Further, as the author himself being a member of ICAR Committee on Cashew cultivation, would have presented the various recommendations of the Committee and how they have been implement across different States. Nevertheless the book will be useful to all concerned with the betterment of cashew industry.

(Gursharan Singh Kainth)

Betterment of Planningcraft; Management of Economic Development-Editor Prof. Ram Prakash, Criterion Publications, New Delhi, 1987. Pages 211. Rs. 150/-

The book contains papers read and discussed at a Seminar on "Management of Economic Development; New Harizons" held at Indian Institute of Public Administration, New Delhi in April 1983. That the proceedings are published four years later in 1987 indicates the need for perofrmance improvement at IIPA.

The Seminar brought together many eminent practitioness in planning including members of the Planning Commission, Government of India Management Experts like Dharni Sinna were few.

The accent of the book is on action, that is, on improving planning and its implementation The best protion of the book is the proceeding of the brain storning session, a jargon loved by management experts, on "Betterment of Planning Craft". On this, A M Khusro emphasises sectoral investment patterns, improving the planning machinery and need for rigorous monitoring and evaluation to learn from past experience and improve future performance The aspect of regional planning is also emphasised to improve planning PR Dubhasi's contention that planning is not only a matter of investment priorities but of technology as well may be well accepted In this matter, M G K. Menon's prescription of product development through R and D, and on information revolution is well worth reading Menon wants to view technology in the total system

This reviewer has liked Y K Alag's presentation on 'Intersectoral balances He projects five balancing systems viz (1) macro balance (2) demand modelling (3) material balance (4) input output relationship and lastly (5) investment requirements of different sectors S C Jain's paper on 'use of Computer's will be appreciated even by lay readers

The book is divided into nine sections viz (1) macro planning techniques and policies (2) systems view and technology policy (3) planning process (4) project planning (5) implementation and monitoring (6) assesment of planning performance (7) use of computers (8) managing differences and (9) betterment of planning craft

Ram Prakash deserves our congratulations for preparing and including in the book very well designed statistical tables. His selection of statistical data is praiseworthy.

(S.M. Shah)

Planning Atlas of Uttar Pradesh-Published by Planning Department, Government of Uttar Pradesh, Lucknow, 1987; Rs. 400/-

'ATLAS' is a book of Maps, They are many but, rare are afew. The Planning Department of the Government of Uttar Pradesh has done a commendable job, in fact monumental, in preparing a "Planning Atlas of

Uttar Pradesh", the most populous and the fourth largest State of India.

The Planning Atlas of Uttar Pradesh carries 67 Plates with 148 Maps It has been divided into 4 sections viz Physical Setting, Economic Setting, Demographic and Social Setting and Planning Perspectives

The first section i e Physical Setting has 14 Plates consisting of 17 Maps They delineate physical conditions and natural resources, which provide an essential base for planning

The Second section viz Economic setting has 26 Plates consisting of 65 Maps, devoted to cartographic analysis od Economic setting of Uttar Pradesh

The Demographic and social setting which forms the part of Thrid section has 9 Plates with 27 Maps throw light on the various aspects of Growth and Distribution of population in the State

The fourth section caters to Planning perspectives with 29 Maps in 8 Plates They delineate spatial profiles of regional growth/variation in different economic sectors of the State

The interesting part of this book of 'Atlas' is that explanatory notes are given at the end, to make *Mapreading more interesting This Himalayan work* has to be appreciated and this book of Atlas, if updated wherever necessary, once in 3 or 5 years, will serve as a valuable document not only for the planners of the State and Centre but also to everyone who is longing for some information or other about the State Both the government of Uttar Pradesh and Govind Ballabh Pant Social Institute, Allahabad have to be commended for undertaking such an arduous, difficult task Apart from this, this book though may look unwieldy has been neatly printed and produced Meticulous care has been taken to choose the colours while printing the maps

In my view this is an 'Atlas' worth-keeping as a ready reference in all libraries in India Other States who have ventured one on these lines or who have thought of producing one like this, should immediately bringout one, so that it will serve as an effective tool of planning

(S. Easwaran)

Understanding Computers by Dinesh Kumar IAS; Published by BPB Publications B-14 Connaught Place, New Delhi; Pages 386; Price Rs. 36/-

The book 'Understanding Computers" is a successful attempt by Shri Dinesh Kumar IAS that explains basics of computers in general and Personal Compulters in particular The book is especially useful for individuals who have no prior knowledge of computers

The author has put in considerable efforts to provide in-depth information about IBM compatible PCs, its peripherals and interface, related software, operating system with emphasis on MSDOS. It also contains an elementary coverage of Computer Languages and Application Programs available on IBM compatibles. Conceptual information about PCs is presented in an easy to understand way in this book

The book uses simple language and tries to explain computer jargons in a lucid way A beginner is definite to get interested as he goes through this book and spends time in knowing all about computers

Department of electronics

(Contd from page 18)

dry areas The mal-distribution of physical and financial assets and incidence of tenancy, no doubt exert an inhibiting influence on production efforts in the affected areas

Epilogue

The projection for 2000 AD works out, as already seen, around 239 million tonnes of foodgrains India has a potential to produce 450-500 million tonnes of foodgrains in the foreseable future say by 2050 This is only possible if we are able to harness the water resources both for developing irrigation net-work to the maximum possible acreage of 110 million hectares gross area and also harness in unirrigated areas the rain water to the tune of 150 million hectares by producing at least 2.5 tonne/ha under irrigated and 1 25 tonne/ha under unirrigated conditions Money spent for developing irrigated areas is on an average Rs 50,000/ha We may consider at least investing one-fifth of that cost in increasing the productivity of these lands The future of agricultural production in India lies in the well planned development of rainfed areas and her prosperity in its intelligent management □□□

(Contd. from page 21)

strategy would overcome the adverse effects of 'pre-emption' sales of marketable surplus when credit was given by indigenous lenders against right to purchase output at pre determined prices. □□□

Central scheme to enhance cropping intensity in Eastern India.

The Government of India has already sponsored a special scheme of paddy production in the Eastern India. The Centrally sponsored scheme of rice production programme is on 50:50/Centre: State funding basis and has already been initiated. Under this scheme, the constraints that have been identified for the plain areas are erratic rain pattern, less coverage of area under HYV, very low rate of fertilisers consumption and soil acidity. One of the objectives of the scheme is to increase the cropping intensity in half of the 27 selected blocks from 120-130% to 140-150% level; in 40% of the selected blocks from 130-150% level to 165-170% and in those blocks which already have cropping intensity of 150% to 180-200% level. *Ahu* (Spring) paddy, *Sali* (Kharif) paddy and *boro* (Rabi) paddy are to be grown in these selected blocks as intensively as possible.

The cultivation of one paddy crop after another in quick succession may be acceptable for lands where drainage is poor or not possible, and where other Rabi crops rotation cannot be fitted due to water-logging or any other such physical constraint. However, for more than 14 lakh hectares of flood free lands in the North Eastern Region (Manipur, Tripura, Arunachal Pradesh, Meghalaya and Assam), more scientific cropping rotation is called for. A rotation with non-rice crops will have a number of advantages, including cutting short the insect pest life cycle and the intensity of their attack.

The following measures are suggested for enhancing cropping intensity. T-hey are :

1. Replacing long duration variety seeds with short duration time-bound High Yielding Variety seeds.
2. To make large continuous areas to be put under short duration High Yielding Varieties.
3. Large areas near to the road sides will be advantageous for obvious operational and demonstration advantages.
4. Irrigated lands to be taken on priority basis and for others dry land farming.
5. Rabi crops before mid-November.
6. Timely linkage of various inputs that are necessary.
7. Repayment of loans to be linked with procurement at the time of harvest. ☐☐☐

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Zakir Husain [illegible]

Development of marine fisheries

A number of important steps have been taken for development of marine fisheries. While encouraging motorisation of traditional fishing craft, the Government has taken steps for augmentation of deep sea fishing fleet through a judicious mix of indigenous and imported fishing vessels by way of joint venture and charter.

Major and minor fishing harbours and landing centres are being constructed and Fishery Industrial Estates are being established. Augmentation of fishery surveys and training of marine fishery coperatives are also being undertaken. Another major step being taken for development of marine fisheries is regulation of fishing by foreign fishing vessels in the Indian Exclusive Economic Zone through enactment of Maritime Zones of India (Regulation of fishing by foreign vessels) Act, 1981.

Government has also constitated a Study Group to go into the entire gamut of fisheries development and to suggest a comprehensive programme for integrated development of various types of fish farming in the country including marine fisheries. This information was given by the Minister of State for Agriculture, Shri Shyam Lal Yadav in Lok Sabha recently. □□□

Measures for safe rural drinking water supply

The Central Government was assisting the State Governments in tackling excess iron, fluoride and salinity in drinking water sources under the National Drinking Water Mission by alternative sources or through setting up of treatment plants. Shri Janardhana Poojary, Minister of State for Rural Development said, that approval had been given for setting up of 200 Iron Removal Plants. 5 Defluoridation Plants and 3 Desalination Plants.

The Minister further said that Government of India had also sanctioned scheme for conversion of 182 step wells into sanitary wells at an estimated cost of Rs. 38 lakhs in the Guinee Worm affected districts of which an amount of Rs. 19 lakhs had already been released. Assistance of Rs. 4.40 lakhs had also been given for setting up 3 district level laboratories for control of bacteriological contamination, he added. □□□

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EDUCATION

yojana

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AGRICULTURE

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Ores and minerals in sea waters

Off shore surveys along the east coast of India have revealed occurrences of heavy placer minerals like ilmenite, rutile, zircon and monazite at Gopalpur in Orissa, Kalingapatnam, Visakhapatnam, Godavari River mouth in Andhra Pradesh and Pondicherry within the Territorial Waters.

Preliminary surveys and exploration programmes within Territorial Waters are being planned with special reference to placer mineral investigation jointly by Geological Survey of India and the Atomic Minerals Division of the Department of Atomic Energy. Sampling on grid pattern are being carried out during the cruises of the GSI Research Vessel, which are later analysed for their heavy mineral content. The survey is being continued in the current Field Season in Gopalpur and Kalingapatnam sectors.

The Indian Rare Earths Limited, a Public Sector Undertaking has set up their Orissa Sand Complex (OSCOM) in Chatarpur in Ganjam district for exploitation of the mineral sands in the area.

This information was given by the Union Steel and Mines Minister Shri M.L. Fotedar in the Rajya Sabha recently.

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New approach to vocational & technical education

Prof. P.R. Sengupta

The author laments that the need for vocationalisation of education reemphasised in the new education Policy is a non-starter. The situation may continue to be the same unless a new approach is adopted in the design and structure of the vocational education programme warns the author. To make it more relevant and attractive he suggests various measures.

VOCATIONALISATION OF EDUCATION AT 10+2 STAGE was incorporated in the National Education Policy Resolution twenty years ago as an important element of a new education pattern for effective education-employment linkage. It was expected that this would reduce the disproportionate pressure on higher education and help degree and diploma holders. The need for vocationalisation has been re-emphasised in the New Education Policy. But, unfortunately, the programme is still a non-starter. Against an expected enrolment of 50% at the 10+2 stage by 1985-86 not even 2.5% joined the vocational stream. As per the available data, the impact of the programme on the employment market is yet to be felt. The situation may continue to be the same unless a totally new approach is adopted in the design and structure of the vocational education programmes.

Three basic reasons for so poor a performance of the vocational education programme are: 1. Lack of socio-economic relevance of the courses offered. 2. Traditional class/caste oriented social attitude sustained by fairly easy access to highly subsidised college/university education particularly in liberal arts and Humanities courses. 3. Distortions in our technical education system and lack of linkage between vocational and technical education.

Lack of motivation

Motivation for and socio-economic relevance of the courses offered are restricted primarily due to the following facts.

1. Traditionally these vocations are learnt as 'practicals' mainly by those who drop out at much lower levels in the education system. It often gives the 'practicals' an edge over the 10+2 vocational output in the employment/self-employment market because of lack of proper linkage between the vocational education programme and the employment market.
2. The course content, curricula design and the structure of the programme, generally, are such that they tend to provide a narrow and superficial skill orientation without even assessing the marketability of the skills in the local economy. As such employability gets restricted, particularly, when skill occupation matrices are in a state of flux due to technology change and occupation employment matrices are prone to change due to change in economic structure. The vertical mobility of the 10+2 output both in educational and professional terms are, in general, not much better than that of the 'practicals', due to lack of adequate linkage with higher technical education. Economic return of the programme when employed/self employed is not very impressive or necessarily higher than that of the practicals except in some special courses. Administration of the programmes, often leaves much to desire due to lack of qualified teachers and proper workshop/laboratory facilities in the school, specially in those located in rural areas.

The importance of vocational education for diversification of education at the 10+2 level to reduce pressure on higher education has been reemphasised in the New Education Policy. But what the documents do not spell out is how exactly this is going to be

achieved in the face of the problems mentioned above. It does not spell out how a 10+2 student from a middle class family will be motivated to take up vocational course instead of Science or Biology course for trying his/her luck in medicine or engineering education. It does not spell out in any practical detail how vocational education restricted to 10+2 level will be made relevant to social and occupational needs in the different parts of the country, particularly in the rural sector. This will need, on one hand, change in social attitudes and, on the other hand, a new approach to vocational education.

Need for a new approach

The first step for changing the attitudes will be to prove to the young aspirants for a career, and more important, to their parents, that vocational training also can lead one to the same height in the career as general education and a degree in engineering would. Geographically and in terms of number, even today more than 50% of the total technical labour force in the world comes through vocational stream, though all them not necessarily through formal vocational education. The term vocational education/training in generic sense, is much wider than the limited concept of vocational education at 10+2 level It consists of training in skill formation for productive work using a given set of technology mix. As such this constitutes one of the basic components of human resource development for generating value added in the products leading to economic growth and development. Technology, here, is used in the generic sense as the total process of converting the input including labour into output with enhanced socio-economic value In this sense, shorthand or tailoring or catering is as much a technology as construction technology. In general, vocational education/training consists of preparation for base and middle level, i.e., the so-called non-professional levels of technical occupation.

The post independence scenario

The growth of technical/vocational education was rather slow before independence because the economy continued to be largely agriculture based and the available preferred wage employment for the educated Indians was heavily weighted in favour of clerical or white collar office jobs in the organised sector both in the private commercial houses and in the government offices The two together constituted the major share of the employment market. As a result, the pressure on general education grew at a rapid rate and there was a gradual shift of social attitude towards white collar jobs. The unorganised sector which was essentially the less privileged, however, still continued to draw its supply of skilled workers from inhouse non-formal training system which continued as a parallel channel of skill formation through the centuries But due to the newly established social attitude, generally, the school dropouts opted for these skills and vocations because they were the refuge for the less educated. As a result, we have today a weak base of middle level technical manpower in the country and a poor education-occupation matching for the qualified technical manpower. This is one of the reasons why our industrial productivity is so low, maintenance so poor and quality of products so sub-standard.

Education-occupation mismatch

As per 1981 Census, there were as many as 2 crore technical/vocational occupations in the employment market while the total number of technically qualified persons in the labour force for manning these positions was less than 20 lakhs which means 90% of the technical/vocational positions were held by mostly the school dropout 'practicals'. This is one dimension of the problem concerned with vocational education-occupation matrix in the employment market

There is yet a second dimension of the problem which is not less distressing i.e., that of education-occupation mismatch of the qualified technical manpower in the country. As per statistics available to the committee on Technical Manpower & Vocationalisation set-up by Ministry of H.R D. in 1986, not more than 30% of the qualified engineers were employed in occupations relevant to their education and less than 28% of the technicians' were employed in relevant technical positions

A new approach to vocational and technical education has to take note of both these problems in human resource development in the technical/vocational field

Systemic definition of technology

In order to understand this malady, it is necessary at the outset to understand the connotation of the word 'technology' in the proper systemic perspective and its use for economic growth Operationally, in the overall input output system of an economy, technology plays the role of a transformation matrix Tr It has three components .(1) Tr1, the hardware component or process technology, (ii) Tr2, the organisation including the fiscal practices and socio-economic attitude and behaviours, and (iii) Tr3, competence and skill of the scientific and technical manpower. In terms of quantifiable parameter, Tr3 represents the education skill-occupation matrices of the scientific and technical manpower. With the help of a systems model, it has been shown by Prof. Sengupta (Sengupta, P.R. 1979) that for sustained economic growth based on technical development, education and training, scientific and technical manpower at different occupational levels and belonging to different functional groups should be continually updated for matching the requirements of technological change, meaning that there should be a continued matching between Tr1, Tr2 and Tr3. This requires an effective coupling between them and calls for appropriate linkages between technology, education and society.

Technology, in its system concept, therefore, includes not only the process technology or the hardware but also: material, management, market, money and, of course, the skill and competence of the manpower. As such, technology is not universal but regional and socio- economic environment specific, while science is universal. This difference between science and technology in terms of their transferability has to be clearly understood while designing a technology policy and technical education system. As we have seen above, institutionalised formal technical and vocational education system in our country was imported by the 'Raj' in order to satisfy certain specific needs and not for a smooth transformation from a feudal to industrial economy based on application of science and development of socially relevant technology or for adequate and productive utilisation of our local resources.

Side by side, of course, as we have seen above, there existed a traditional system of skill formation which took care of the ancillary and the non-formal sector employment which constitutes today about 90% of the total employment The technical education system tended to be designed to meet the requirement of only the meagre 10% of the employment market in the organised sector which, again, are mainly concerned with producing industrial goods based on mostly borrowed technology where the professional had very little scope for innovation or stake in professionalism.

Some of the disturbing outcomes of the lack of socio economic relevance of the imported technology as well as borrowed technical education were the following :-

(a) lack of a confidence for technical innovations amongst the professionals as well as in the industry,

(b) poor diffusion of technology in the industrial sector because of lack of adequate training and upgradation of skill of the vast majority of the technical/vocational manpower,

(c) resulting in low overall productivity and value added due to continuance of obsolete technology and lack of facility for diffusion of up-to-date technology, born out of the compulsion of the lack of technical performance capability of the technical labour force to respond adequately to the needs of the modern technology,

(d) Poor quality control of industrial products in the country, and

(e) Extremely inefficient maintenance of the highly capital intensive imported machinery and plants, in particular, and of the industrial plants and machinery, in general, leading to a loss of capacity utilisation to the extent of 30% to 40% due to inadequate training in defensive maintenance.

These are the major diseases which plague our industrial and economic scene. A new, approach to technical education has to be sought with complete appreciation of this scenario with an understanding of the issues and problems involved in it.

Modern technology

Development of technical manpower for modern technology consists of three stages : development of skills-learning to do a job with full understanding of the 'what', component of the technology involved in it; learning of manipulative techniques-learning the 'how' component of technology with application to engineering processes, and application of scientific principles in production process and engineering techiques-learning the 'why' component of technology for design and development. In modern technology, linkages for the continuity between these stages is important for effective utilisation and career development of scientific and technical manpower as well as for appropriate technology development. The integration also helps linkage between education and economy through actual translation of the functional occupational matrices and reduces wasteful drifting which is very common in the conventional system This forms the core logic of continuing education in engineering and technology and calls for constant updating of the curricula.

Application of science for technology development for production processes calls for inter-disciplinary learning approach today. The national level study conducted by the author on scientific and technical manpower for R&D in India showed that technology development with successfully completed R&D chain starting from basic oriented research, applied research, design and development ultimately leading to manufacturing and tooling process, needs a strong inter-disciplinary group for successful implementation It is, therefore, important that there should be built-in flexibilities in the technical education system for choice of appropriate inter-disciplinary courses

The rationale for a change in the technical and vocational education system lies in the fact that one of our primary social objectives is to achieve, within a measurable period of time, economic progress to provide an adequate quality of life both in rural and urban areas. This implies transformation from a less productive traditional economy to a more productive economy based on science and technology. This cannot be achieved without well trained and innovative technical manpower, whose skill and knowledge are continually updated. Thus investment in education of technical manpower is an investment for growth. One of the important functions of the technical education system is to match the output both qualitatively and quantitatively to the needs of the economy For achieving this, it is necessary to continually update the performance of the educational system relevant to the needs of the country, more efficient in the use of available resources, both material and human and a more effective force for individual and national develop-

ment. With rapid technological advance, the educational system has to change more frequently and more rapidly than in the past. Traditional education system enshrined in institutional structure with 'straight jacket' academic programmes existing in India often finds it difficult to respond to these needs.

Two approaches to vocational education

If we look at the developed countries, we find that the technical/vocational education system clearly polarises into two distinct groups-one led by Britain and the other originated in Germany and subsequently extended to the East European countries as well as in Japan, Korea and Singapore The vocational education in Britain was distinct from higher technical education while in the second case, the technical education is represented by a smooth continuation of the skill formation through learning of 'what', 'why' and 'how' of technology with the help of application of science and analytical tools. The The second system had a number of advantages with which they have captured the consumer market in the field of technology all over the world today. Vertical mobility of the technical manpower from base level to higher level through upgradation of education not only ensures a better quality of industrial products and higher productivity in a competitive market but also has a built in healthy motivation in the social frame for entering into labour force right at the base level and then to rise in career But unfortunately, the Indian technical education system has continued to operate in the form it was imported a century ago. Technical manpower planning today is done not by projections using method of regression but by career tracing method, a method which is almost unknown in India

Occupational levels

Experience shows that as a country reaches a minimum level of technological development and self reliance, four broad occupational levels of functions are manifest in the technical occupations of the labour force

First level

Primarily manual skills applied on production machines, and so on Some manipulative technic is needed at this level for meeting the skill requirement of emerging technologies and job oriented skill integration for higher efficiency This level is to be identified as the base or vocational level

Second level

A wide range of jobs are identified at this level, including application of new technology to field operations in production and construction, testing and development, etc. The educational requirements consist of skill, manipulative technics and knowledge

Third level

An equally wide range of functions are identified which include some of the functions at the second level but with a higher degree fo qualitative responsibilities, in particular designing and developing products and processes etc.

Fourth level

Engineering and applied science research, R&D with the object of marketting technical innovation, design and development etc.

As it is seen in the functional definition given above, there are overlapping areas between the different levels Thus, overlapping areas can be identified between the first and second levels and second and third levels depending upon the state and level of technology in each country and how it is applied and managed in individual enterprises and organisations.

There is a general agreement that the first occupational level should be regarded as the man-power base and that it consists of skilled workers. In terms of education/training it should be identified with I.T.I. certificate holders But the problem is, I.T.I certificate is trade oriented in character without adequate exposure to the processes involved in skill formation and operation and no opportunity for higher education. This level should be identified with 10+2 technical vocational level. The second level is regarded as a middle level technical personnel

Education/training component corresponds to a middle level with an effective mix of manipulative skill, analytical tool and information. This, generally, corresponds to polytechnic diploma in India, but the polytechnic education programme, today, is more a diluted form of degree couse rather than a well focussed functional course.

The fourth level is generally not regarded as separate and distinct from the third and is merged with the third level The education level corresponds to a degree or a post-graduate degree in engineering or technology.

Technical manpower development

A scientific job analysis of the technical manpower at the three levels in the context of the third industrial revolution clearly establishes a continuity in the mix of the knowledge technical manipulative component from the base level to the highest level and brings out that instead of having two separate compartments–one for vocational education and the other for general professional education, the field of learning in technical education constitutes of continuum wherein it is not only possible but is desirable, for a base level person to reach higher levels of responsibility through retraining and upgradation of skill for more effective education-technology and industry linkage, depending, however, on his competence and provided the person has the aptitude and the intelligence to absorb the knowledge and the training which is required at the highest level of occupation.

At the base level, education or training required consists mainly of skill with an understanding of the scientific processes involved in the operational technics in a phenomenological way combined with some knowledge of manipulative technics Job analysis of a wide range of occupations at this level shows that in a situation of mixed technology like that in India, skill component comprises 60 to 70% of the requirement while the remaining, should be equally divided between the other two For the middle level technical occupations, the three components are equally shared while for the third, i.e., Engineer level occupations knowledge component should be 60 to70% depending on the nature of the function, the remaining portion to be equally shared between the other two. It is thus easy to see that vertical mobility of the technical manpower from base, i.e vocational level to the higher levels is possible by increasing the knowledge and manipulative technique/components of the education through adequate retraining.

But unfortunately, the existing education system in India is such that though this possibility has been hinted at in the New Education Policy, no feasible approach for practical implementation has been spelt out The most important aspect of realising this is to device discipline oriented forward and backward/ coupling matrices of bridge courses for effectively coupling the base level programme to middle level programme and the middle level programme to the high level programme. This can be achieved through a very well designed discipline oriented as *against subject oriented sequential learning modules* with proper linkage between them One Institute of university status with this kind of built-in linkage was set-up by me in the North-East Region. But I am not sure whether the programme structure will be allowed to retain its character because of socio-political pressures towards any innovation. One of my problems was to find the right kind of faculty to implement the programme The second problem was to withstand the political pressure and other interferences in retaining the programme intact Everyone who entered after 10th pass level wanted to go right upto the degree level in one go without taking a break at the intermediate terminality to enter the employment market at the appropriate level and then come back to the system for higher education in a well focussed and judiciously chosen course to further his career as well as meet the need of the industry. The Institute, perhaps, would have had a better chance if it was located in an industrial belt so that at least some percentage of students could come out of the system after the base level to enter the labour force and return to the Institute with their industrial experience for upgrading their skill to reach the higher level of occupational responsibility.

Relevance

The next important consideration regarding vocational and technical education is that the programmes and courses offered have to be sufficiently relevant to the local job market and resource utilisation. This is again a point which is often lost sight of. For example, vocational education for Andaman & Nicobar and Lakshadweep Islands cannot be tailormade in Delhi and transferred on to the students of Andaman & Nicobar and Lakshadweep Islands where the skill occupational structure and the availability of resource will be totally different.

There is a lot of scope for developing fishing, tourism, plantation based industries and crafts in these groups of Islands because these Islands have an economic tradition based on these industries over centuries What the recent expansion of education in the islands has done is to alienate the high school output from this traditional skill formation for exploiting these resocurces. They are looking for white Collar jobs.

A lot is being said today about district level planning, agro-based industries and development of food processing at the district level. No comprehensive skill or techno-economic survey has yet been done to assess what will be the raw materials to be processed, what kind of technology to be used to improve productivity and what kind of skills will be necessary for the total integrated process and technology to be used and how these skills will be transacted to the local labour force. The success of vocational education and success of agro based industries will depend on an imaginative but practical approach in solving these problems

Skill upgradation

An equally important function of vocational education should be to help upgrade the skill and technical information base of the vast majority of the technical manpower particularly in the unorganised sector spread over the entire country who have entered the labour force as 'practicals' and therefore, their attitude to technology diffusion or induction of new technology is generally lukewarm or even hostile. Upgradation of their skill through well focussed learning modules administered in distant education mode will not only help improve their productivity and make them more quality conscious but also give them a confidence that they have the opportunity to move up the ladder of responsibility not necessarily by trade unionism but by actually improving their performance. This will also go a long way to increase the overall productivity and the quality of the products in the industrial sector of the country as well as the quality of services in the maintenance sector.

Conclusion

Hence, a totally new approach to vocational and technical education programme is needed to promote the much talked of employment-education linkage and vocationalisation of education for reducing pressure on degree

In order to make the vocational and technical education programme relevant and attractive following steps are necessary :—

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Vocationalisation of education

C.P. Khanna

Vocationalisation of education has been accepted as an important ingredient of education not only in India but also in the whole world. Hence an effective implementation of the programme could make the enormous population in India an asset and a valuable human resource, says the author.

THE MATERIAL ENVIRONMENT WE NOW LIVE in, the instruments of our daily work, processed foods we eat, sometimes the very air we breathe, have come about as a result of technical development. Likewise, a nation's economic well-being, its standard of living, its potential growth and security all depend largely on the efficiency of its system of technical education and training and on the amount of effort and finance, the nation is willing to devote to it. Technical education is not the only factor in nation's economic growth but it is certainly an essential component.

Yet, this very system–its structure, methods and techniques have risen above the sub-conscious level of thought and planning in recent years. Even now, for many administrators and even educators, vocational and technical training is an unknown phenomena.

The ancient scriptures of India define education as that which liberates i.e. provide the instruments of liberation from ignorance and oppression. In the modern world, it would naturally include the ability to read and write In the present day context, no educational thinker, planner and administrator can visualise any reform or innovation in educational system without reference to vocational education. The general belief is that it is the characteristic of all good education to aim at the development of balanced personalities-personalities who are culturally refined, emotionally stable, ethically sound, intellectually alert, socially efficient, spiritually upright and physically sound. Good education aims at developing men who can play as well as work, men who can consume as well as produce and men who can appreciate as well as create. Vocational education grows out of such a system India needs vocational experts with cultural, democratic, economic, humanistic, moral, physical, social and spiritual training.

In view of the general realisation at all levels to strengthen and introduce the programmes of vocational education in the stream of general education particularly at the higher secondary level, it will ensure a more effective discussion of the subject if the concept of vocational education is clearly understood. For this purpose, it will be appropriate to define the term.

Professor Arthur B. Mays in 'Principles and Practices of Vocational Education' states "In its broader sense, it could mean education preparatory to the entering of all occupations both professional and non-professional and thus encompasses the entire educational process."

Franklin J. Keller has rightly observed "People must work together, they must believe in each other's work because they feel they are serving others and others are serving them. They must be common sharers in the task of making life worth living. Vocational education assumes to work upon the principles that every individual is worthy of preparation for an occupation and that every occupation is worthy of the individual who pursues it whether it be manual, intellectual or emotional. Thus, arriving at the 'Dignity of Labour' in action rather than preachment."

The new Encyclopaedia Britannica (1985) states that the vocational education is "Instructions intended to equip person for industrial or commercial occupation. It may be obtained either formally in trade, schools, technical secondary schools or in the job training programmes or more informally by picking up the necessary skills or the job without actual supervision."

The characteristics of vocational education has been aptly summed-up by UNESCO in its recommendation of 1974 on technical and vocational education as a "Comprehensive term embracing those aspects of the educational process involving in addition to general education, the study of technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in the various sectors of

economic and social life. Such an education would be an integral part of general education and a means of preparing for an occupational field and an aspect of continuing education. Technical and vocational education should further contribute to the achievement of society's goal of greater democratization and social, cultural and economic development, while at the same time, developing the potential of the individual for active participation in the establishment and implementation of these goals. It should lead to an understanding of the scientific and technological aspects of contemporary civilization in such a way that men comprehend their environment and are capable of acting upon it, while taking a critical view of the social, political and environmental implications of scientific and technological change Given the necessity for a new relationship between education, the working life and community as a whole, technical and vocational education should exist as a part of a system of life-long education adopted to the needs of each particular country."

Regarding the concept of vocationalisation, Kothari Commission (1964-66) observed "We visualise the future trend of social education to be towards a fruitful mingling of general and vocational education, general education containing some element of pre-vocational and technical education and vocational education in turn having an element of general education."

After defining vocational education and understanding the implications of the term, interest will normally turn to find out the extent to which we have been able to introduce vocational education in the pattern of education. A reflection on the efforts made to reform educational system in India even during the British period will reveal that every exercise include a reference to vocational education.

During the British period, the system of education in India was geared to two major goals . The administrative need of creating a class among Indians who would function as clerks and help in running the administration, the cultural needs of making Indians aware of the science and literature of West and converting them to their way of life This legacy of the British period has persisted even today This has raised the number of unemployed and frustrated youths to problematic proportions This can be attributed to the fact that the educational system had no relevance to the socio-economic conditions of the country. This constituted a serious lacunae in the system and the need to make it work-oriented was reflected in the report of several commissions and committees.

Woods despatch

Woods Despatch of 1854 obliquely referred to the introduction of some form of vocational education when it stated that the institution in secondary schools should be "Practically useful to the people of India in their different spheres of life " The Despatch further suggested that "Schools should provide more opportunities than now exist in the acquisition of such an improved education as well as make those who possess it more useful members of the society in every condition of life."

Hunter Commission

The Indian Education Commission (1882) or Hunter Commission gave considerable attention to the provision of vocational education and recommended "In the upper classes of higher schools, there should be two divisions. One leading to the entrance examinations of universities, the other of a more practical character intended to equip youths for commercial or non-literary pursuits."

National education movement

The rise of national education movement during 1905-21 gave birth to the concept of national education This movement led to the establishment of National University like the Jamia Milia Islamia, the Vishva Bharti. The Jamia Milia attempted to give a vocational bias to education. The Vishva Bharti founded by Gurdev Rabindranath Tagore in 1922 contained departments like Vidya Bhawan, Kala Bhawan, Sangeet Bhawan, Silpa Bhawan and Sri Niketan. Sri Niketan was an institute of rural reconstruction and Silpa Bhawan. Institution committed to the promotion of cottage industries

Hartog committee

The Hartog Committee on vocational education (1929) observed "The whole system of secondary education is still dominated by the ideal that every boy who enters a secondary school should prepare himself for the university examination This indicates a great waste of efforts. Such attempts as have been made to provide vocational and industrial training have little contact with the educational system and are therefore, largely infractuous."

Sapru committee

The Sapru Committee (1934) addressed itself to find out the ways and means of solving unemployment problem. The committee recommended 11 years of school education with vocational studies commencing after 11 years of education.

Sargent report

Sargent Report 1944 prepared a plan of educational development in India and recommended :–

(a) Universal, compulsory and free elementary education for children between ages of 6-14.
(b) High school education for six years for selected students in the age group of 11-17
(c) Technical, commercial and art education for full time and part time students on an adequate scale.

Radha Krishnan Committee

The University Education Commission more

popularly known as Radha Krishnan Committee (1948-49) recommended the opening of a large number of intermediate colleges at the end of class X. These colleges should be able "To meet the variety of needs of our young men and women by giving vocational base to their courses while retaining at the same time their value in a system of general education as preparation for university courses."

Mudaliar Commission

The report of Mudaliar Commission or Secondary Education Commission (1952-53) is a very important document of the post-independence period on the re-organisation of secondary education. The commission stressed the need for vocational education.

Kothari Commission

Kothari Commission (1964-66) also strongly recommended vocationalisation of education and emphasised that "University degrees are not at all necessary for majority of the jobs at middle levels and these jobs can be competently done by vocationally well trained higher secondary students. Moreover, more than 50% of the students discontinue their studies after high school and embark upon some work to provide means of livelihood without any professional competences. Such drop outs if equipped with necessary skills in some vocations, can face life with more confidence and supplement their family income instead of wasting their adolescent years in pursuit of futile university education."

Thus, the Kothari Commission recommended the creation of two distinct streams at +2 levels after 10 years of general education– general academic stream and vocational stream, the former preparing students for college education and latter educating them in vocations of their choice.

National policy of education

During the years 1986-87, the national policy of education was finalised. This policy adopted by Indian Parliament in May, 1986 was followed-up by an elaboration through the Programmes of Action also adopted by the Parliament a couple of months later. The new education policy is a milestone in the history of education in India. It was hailed by our Prime-Minister as an effort to re-construct educational system by introducing effective measures to generate in the country a climate for effective national growth and integration. This policy also gives high priority to the programme of vocationalisation of education. It has laid down the target of 10% diversification of students on the higher secondary stage to the vocational system by 1990 and 25% by 1995. The Programme of Action has suggested formulation of vocational programmes for various target groups, strengthening of infrastructure of various levels, apprenticeship training for the students of vocational courses, revision of recruitment rules and employment policy.

Vocationalisation of education has been accepted as an important ingredient of education not only in India but indeed the World over. In training young people for their future profession, a nation is quite literally renewing itself. All aspects of national life are related in some measures to the training of adolescent and all desirable aspects of that life who find some expression, however brief in the course of studies offered It is not solely a matter of practical training for the job of today nor indeed merely a matter of theoretical or cultural studies, the most beneficial contribution that can be made to the expanding culture particularly in developing countries is just plain, unadorned manual skill. It is not surprising that in the matter of education and training the particular methods used, are diverse and have roots in the social and economic history of the nation.

There can be no denying the fact that India has throughout emphasised the need for vocationalisation of education but inspite of this, the progress has been tardy. An effective implementation of the programme could make the enormous population in the country an asset and a valuable human resource It is to be hoped that the element of vocational education included in the national policy of education and its Action Programme will be vigorously implemented so that the abundant manpower should be harnessed to its growth, development and advancement and thereby usher in an era of peace, progress and prosperity in the country □□□

Trade worth Rs. 1847 crore with GDR, Poland and Czechoslovakia

A total trade turnover of Rs. 1847 crore in India's bilateral trade with Poland, Czechoslovakia and the German Democratic Republic (GDR) has been planned for the year 1989, according to the annual Trade Protocols for 1989 finalised recently with these three countries. During 1988, bilateral trade with these countries was expected to go up by more than 20 percent particularly with Czechoslovakia where the growth is expected to be about 35 per cent over the previous year. It has been decided to restructure the trade basket so as to further improve the level of implementation of the trade plans and thereby achieve increased volumes in trade.

The trade protocols envisage sharp increase in imports of various industrial raw materials from these countries apart from machinery and equipment. Increase in imports of diessel generating sets, textile machinery, ship engines and vessels, mining machinery printing machinery has been planned. Ar commodities, imports of newsprint, muriate of dye intermediates, steel, chemicals, floa ferrous metals, especially zinc and copr coal has also been envisaged for fu

Four decades of education

K.K. Khullar

The author here makes an assessment of the development of education in India since Independence. According to him we have achieved great success in this sphere as the literacy rate has gone up to 36.23% as compared to 14% in 1947. Similarly, the educational expenditure has also gone up. Tracing the history of educational development in modern India, the author speaks of Kothari Education Commission, which became the basis for National Policy on Education. The New Education Policy announced by the Prime Minister removes all imbalances and disparities in all sectors of education, says the author.

IF A RIP VAN WINKLE WAS TO GO TO SLEEP IN 1947 and wake up in 1989 he would not be able to recognise the educational map of India. The percentage of literacy in 1947 was only 14 and the total educational expenditure was Rs. 57 crores. Today the rate of literacy has gone up to 36.23% and the educational expenditure is 8506.62 crores. If non-plan expenditure is added, the total expenditure on education is only next to defence More than 90% of the country's villages have schools located within the radius of one kilometre from the house of the child. In 1947, we had only 17 universities as against 140 today. The number of medical colleges, agricultural colleges and institutions of Higher learning have gone up ten fold since independence. There was no such thing as Polytechnic or I.T.I (Industrial Training Institute), no Adult Education Centre or Non Formal Education Centre, np Open School or Open.University. Vocational and technical education was but poorly developed, both at school and university stages and the supply of high level trained manpower was very limited Educational inequalities were very large between men and women, urban and poor, between one region and another and castes and Scheduled Castes and Tribes The British Government's policy was to produce clerks and middle level functionaries to support their system and sustain their rule. It was this challenging situation that the nation was called upon to reform when we became independent on 15th August, 1947.

Kothari Commission

The years that followed witnessed various commissions on education the most important was the Kothari Education Commission (1964-66) which became the basis for the National Policy on Education in 1968

According to this Policy the Government of India was convinced that a radical re-construction of education on the broad lines recommended by the Kothari Education Commission was essential for economic and cultural development of the country, for national integration and for realising the ideal of the socialistic pattern of society. This involved a transformation of the system to relate it more closely to the life of the poeple, a continuous effort to expand educational opportunity; a sustained and intensive effort to raise the quality of education at all stages; an emphasis on the development of science and technology; and the cultivation of moral and social values It was realised that unless the educational system produced young men and women of character and ability committed to national service and development, only then will education be able to play its vital role in promoting national progress, creating a sense of common citizenship and culture, and strengthening national integration. This was considered necessary if the country was to attain its rightful place in the comity of nations in conformity with its great cultural heritage and its unique potentialities. Education was thus conceived as a major instrument of social change. In the years to come it was treated as an investment for the future.

Equity, and equality have been the marked features of the 1968 Policy Quantitatively the increase has been tremendous. The educational expenditure has gone up to 3 6% of the national income although the policy recommended the gradual increase in investment in education to reach a level of 6% of the national income. In 1947 it was less than half a percent of the national income of undivided India i.e. including those for the areas now included in Pakistan and Bengladesh but excluding those of the erstwhile princely Indian States.

Growth of institutions

During the last three and a half decades the number of educational institutions in India has increased from 2.3 lakhs to 6.9 lakhs-a three fold increase. A large number of these institutions (5.04 lakhs) constituting 73% of total educational institutions, are primary schools. Over the period 1950-83, they registered an increase of 2.4 time yielding a compound growth rate of 2.8% per annum.

New education policy

The large scale expansion of the system, however, did not result in quality or uniformity nor commonality. The disparities and imbalances between poor and rich, men & women, urban & rural persisted. Something drastic had to be done. The result was the New Education Policy. The call for the New Education Policy was first given by Prime Minister of India, Shri Rajiv Gandhi, in his first broadcast to the nation on January 5, 1985 The need for the New Policy arose from the fact that the implementation of the 1968 Policy was incomplete and uneven. No plan of action was prepared for its implementation nor were adequate funds made available for the purpose. In the meantime, the number of illiterates increased and the standards declined, both considerably New technologies had emerged and changes occured everywhere. Besides, as the Prime Minister stated "No system could remain forever. It required modification with the passage of time"

The new education policy has envisaged a national system of education ,and all imbalances and disparities are removed in all sectors of education The national system is based on a national curricular framework which contains a common core along with other components that are flexible The common core includes the history of India's freedom movement, our constitutional obligations, our cultural value system, national heritage, inculcation of scientific temper, observance of small family norms, secularism, democracy and socialism These elements will cut areas and will be designed to promote values to which we, as a nation, are culturally and constitutionally committed. In the words of the Prime Minister :-"The New Education system would seek to reinforce the country's old values. Above all it must be able to maintain our Indianness against the deluge of materialism." The New Education Policy, has, therefore, highlighted the growing concern over the erosion of essential values and an increasing cynicism in society has brought to focus the need for readjustments in the curriculum in order to make education a forceful tool for the cultivation of social and moral values. It is expected that this type of education will help eliminate obscurantism. The National System of education envisages a common educational structure of 10+2+3 which has already been accepted in all parts of the country. Regarding the further break-up of the first 10 years efforts will be made to move towards an elementary system comprising 5 years of primary education and 3 years of upper primary education followed by 2 years of high school.

To promote equality it is necessary to provide for equal opportunity to all not only in access, but also in the conditions for success. Besides awareness for inherent equality of all will be created through the core curriculum. The purpose is to remove prejudices and complexes transmitted through the social environment and the accident of birth. Adequate provisions have been made in the Policy for education of Scheduled Castes, Scheduled Tribes, Minorities, Handicapped and other educationally backward sections and areas. The idea is to bring them at par with the rest of the population so that they can work shoulder to shoulder in the cause of national development.

Drop-outs and non-formal education

The New Education Policy, however, accords greatest priority to solving the problem of children dropping out of school and has recommended for adoption an array of meticulously formulated strategies based on micro-planning, and applied at the grass roots level all over the country, to ensure children's retention at school. This effort will be fully coordinated with the network of non-formal education. It shall be ensured that all children who attain the age of about 11 years by 1990 will have had five years of schooling, or its equivalent through the non-formal stream. Likewise by 1995 all children will be provided free and compulsory education upto 14 years of age. There are at present 1,61,000 such centres (with 21,000 centres exclusively for girls) functioning with an involvement of 35 lakhs in 9 educationally backward states viz Andhra Pradesh, Assam, Bihar, Orissa, Rajasthan, Jammu and Kashmir, West Bengal, Uttar Pradesh and Madhya Pradesh. On the principles of distance education an 'Open School' has been provided in the New Education Policy. One such school was established in 1979 by the Central Board of Secondary Education and offers coaching through correspondence lessons. It enables learners to get access to educational opportunities without interrupting their employment pursuits. It enables the children to get education at their door step. An Open School, differs from the conventional school in the following ways.

(a) A learner may join and leave the course at any time.

(b) A learner is not obliged to complete the course in the prescribed time.

(c) A learner need not stick to the rigidly prescribed combination of subjects.

(d) A learner is not required to learn all the subjects at the same time.

(e) A learner will accumulate his credits earned at different periods.

For girls unable to attend either formal schools or non-formal centres, the open school offers excellent

opportunities to acquire education equivalent to Secondary School Certificate. The Pavement Schools of Calcutta and the Mobile Schools for the nomads in Kashmir are examples of Non-Formal Education. This Gujjars and the Bakarwals of Kashmir have benefitted enormously by these mobile schools The Open School in Tamil Nadu with an intake capacity of 2500 and with Tamil as medium of instruction has enabled many working adults and housewives to complete secondary school educatin as also improve their socio-economic states

Operation blackboard

The New Education Policy envisages a centrally financed programme to ensure provision of essential facilities in primary schools-both material facilities as well as learning equipment Operation Blackboard envisages (i) two reasonably large rooms that are usable in all weather, (ii) necessary toys and games material, blackboards, maps, charts, and other learning materials, and (iii) a second teacher preferably a lady in all single teacher schools Basically those schools will be covered which have remained deprived of these essential facilities in the past The upper primary and secondary schools having primary sections are not covered under this scheme It is proposed to cover 20% of community development blocks/municipal areas in 1987-88, 30% in 1988-89 and 50% in 1989-90 The construction of upto two additional classrooms with a varandah and toilet, provision of a second teacher in single teacher schools and supply of teaching-learning material require school-wise assessment of availability of such facility so that the deficiencies can be made good under the Operation Blackboard To enable this to be done a survey will be conducted in the selected blocks The programme has been launched in some of the States

Education of Scheduled Castes

The focus in the educational development of Scheduled Castes/Scheduled Tribes is their equalisation with the non-SC/ST population at all stages and all levels of education, in all areas and in the four dimensions-rural male, rural female, urban male and urban female, as stated in the National Policy on Education (1986) To this end, and keeping in view the objective of universal primary education for all children in the age group 6-11 by 1990, enrolment of all SC/ST children in the age group by the end of VII Plan, and their retention in schools, leading to satisfactory completion of the primary stage of education or its equivalent through the non-formal stream, has to be ensured This would mean enrolling approximately 15 5 million SC children in the age group 6-11 and 7 5 million ST children in the same age-group (total 23 million) by 1990. Detailed District-wise action plans would need to be drawn up to phase the enrolment in the remaining years of VII plan Specific measures to bring down drop-out rates which are considerably higher, would call for priority By the same target date i.e 1990, it is our endeavour to enroll atleast 75% of the children in the age specific group in classes VI-VIII (age group 11-14), with emphasis on their retention and satisfactory completion of the elementary stage of education and ensuring substantial reduction in the number of drop-outs.

The University Grants Commission has issued guidelines to all the Universities that in admissions to the undergraduate and post-graduate courses, 15% and 7.5% of the seats may be reserved for Scheduled Castes and Scheduled Tribes students respectively. The guidelines stipulate that provisions may also be made to give concession of 5% marks in the minimum percentage of marks required for admission to any course study In case by allowing the above concession, some seats in the reserved quota remain unfilled, a further relaxation in the marks may be given to them in order of merit interse amongst themselves so that all the seats are filled by the candidates belonging to these categories.

The following steps have been taken by the Government of India with regard to the educational development of Scheduled Castes/Tribes under the National Policy on Education-1986 :-

(a) Pre-matric scholarships for the children of those engaged in unclean occupations.

The scheme is in operation since the 5th Five Year Plan but has been suitably modified to make it more effective The rate of scholarships under this scheme has been increased from Rs. 145/- p.m. per child to Rs. 200/- p.m per child for the children studying in classes VI to VIII and Rs. 250/- p.m. per child for those studying in classes IX and X. The income ceiling of the parents/guardians of the children has also been increased from Rs. 500/- p.m. to Rs 1,000/-p.m. Under the modified scheme the children of sweepers are also covered. The scheme was made effective from Ist April, 1986. Nearly 4000 students are being benefitted every year under this scheme.

(b) Construction of hostel buildings for the SC/ST girls.

Under this scheme grants are given to the State Governments on matching basis for the construction of hostel buildings for the girls belonging to SC/ST where ceiling costs of construction per hosteller has been increased. There are at present 1500 hostels for scheduled caste girls and about 800 for scheduled tribe girls.

(c) National Overseas Scholarships

Under the scheme candidates belonging to SC/ST and other backward classes are sent abroad for higher education. The total number of scholarships has been increased from 21 to 25 with effect from the current year. Similarly, the rates of maintenance allowance have also been suitably increased. In the Postmatric sector there are 11 lakhs of scholarships being disbursed to SC/ST students every year in the country. □□□

Planning for pilot projects

P.D. Vashist ·

In this article the author points out that long trial runs are necessary for pilot projects before they are taken to the actual beneficiaries. The success of the pilot projects should be watched over a period of at least ten years, says the author.

THE PACE OF TECHNOLOGICAL DEVELOPMENT of a society is determined by a number of factors. These determinants can be classified into two broad categories i.e. (i) economic factors and (ii) non-economic factors. The economic factors which determine the rate of technological development include the trends in natural and human resources, their quality, capital, enterprise including the level of technology itself. The non-economic factors which influence the process of technological development include the basic institutional framework of society such as historical background and heritage, social customs and traditions, cultural characteristics and attitudes last but not the least moral values and political conditions. It is always possible to quantify and plan for the economic factors change and transfer. The real test of the government lies in its ability to goad the non-economic factors which are subtle and intangible. The two factors i e economic and non-economic are not two different things working in isolation with each other, but are deeply intertwined and strands of the same rope which lends strength to it.

Major Problems

In the light of the diversity of different factors influencing the economics and science, the task of initiating and promoting technological development becomes quite complex and difficult. Two major problems have to be resolved in order to initiate the process of technological development effectively and efficiently. The first problem relates to the identification of the key factors affecting technological development and the specification of their relationship with rate of technological growth. The second problem relates to the specific mechanism or the system through which the technological development efforts is to be planned and subsequently executed in the economy by taking it to the beneficiaries.

So far as the first problem is concerned, it is interesting to observe that many scientists and economists have laid emphasis on development, dissemination and acceptance of technology alongside capital accumulation or investment as the key factor governing the rate of the technological and economic growth. It is also an unvarnished fact that an economy which is under-developed is also under-developed in science and technology. The major obstacle in the path of economic and technological development of such an economy is the self-perpetuating nature of mass poverty. The basic requirement for initiating technological and economic development in a developing economy like India's is, therefore, to break the vicious circle of poverty. An attempt at surmounting the vicious circle of poverty pre supposes a clear identification of the crucial links in the circle that constitute the most pernicious obstacle in economic and technological development.

It is interesting to find that even the scientific community and economic-pundits are agreeable on the point that capital accumulation is the major factor governing the rate of technological and economic development. Towards economic development and technological change whatever paths, concepts and theories of planning viz. "take-off", "big push", "critical minimum effort" or the doctrines of balanced and unbalanced growth one may follow; the investment or capital formation is going to be the moot point, sine qua non, pre-requisite and pre-condition. It is customary therefore to regard investment as the crucial factor in economic development. Consequently a number of growth models can be developed to examine the relationship between the rate of investment and the rate of economic growth and technological change.

The second problem mentioned focuses essentially on the choice of an appropriate economic system or mechanism that will mobilise and execute the required technological effort most effectively over a specified period of time. It raises the fundamental issue of the centralized economic planning versus price mechanism and free enterprise. Like economic planning, technology dissemination, in general occurs in two main ways via the market route, and via the non-market route. As far as the national development is concerned, all activities may not fall in the ambit of free market forces. After all it is the bounden duty of the governments to alleviate poverty and raise the standards of living of the people who live below the poverty line. Such underdogs of the society owing to a variety of reasons cannot benefit

from the free market mechanism and would be exploited by the haves and the powerful economic and technological lobbies.

In a system of open price mechanism and competition, the poor, whether in the urban or rural area, cannot have derived substantial share of financial or social benefits owing to a variety of reasons This makes the task of dissemination of technology all the more difficult. In order to ensure that maximum benefits trickle down to the vulnerable sections of the society, through economic assistance, technology dissemination and assimilation; the Government of the day and other non-government organisations (NGOs) will have to follow a mixed policy i.e that of: (a) free market and (b) non-market approaches Non-market route will imply expenditures on 'Social Overhead Costs' i e. building up the infrastructure which will broadly include investments in transport network, communications, education, extension, subsidies, conventional public utilities like electricity and power generation, irrigation, water supply and drainage schemes etc. Similarly, government will have to make investment in some of the directly productive activities (DPA) which will include agriculture, manufacturing, construction, trade and other directly productive activities in the non-farm and tertiary sectors

Pilot Projects

Some of the above-quoted hypotheses are equally applicable to the production and subsequent uses of technological innovations and upgradation In a developing economy like India, apart from many problems; one of the principal scarce resource in technological dissemination and economic development leading to the eradication of poverty is genuine decision-making No one would deny the fact that capital is a scarce resource in an under-developed economy. It may be genuinely conceded that the real scarcity or ultimate bottleneck in the technology transfer and utilization is not physical resource themselves but the ability to bring them into play and derive optimum benefit from them. It is the limited ability to effectively utilize resources or lack of fundamental decision-making ability which represents the real constraint on economic development effort Our policy should therefore be, to follow the sequence of expansion that will maximize induced decision-making and hence inclined investment in the economic and technological development. Technology will ulitmately be able to put to its best use through dissemination In the developing countries it has been seen that most of the technology development plans stop with the pilot project. A majority of pilot projects after their completion tenure are abandoned or they are pursued light-heartedly. Unless a pilot project is wholly futile or failure. the lessons learnt from it should not gather dust in the government morgues. In fact, each pilot project, in order to be replicated, will require its transfer, availability and acceptability to its ultimate uses, and this will only be possible through dissemination and accessibility.

Success of the pilot projects should be watched over at least a period of ten years, and then only should they be taken to the beneficiaries who should be equipped with sufficient finances, subsidies, infrastructure and wherewithals. One obvious mistake that our planners and development agencies have been committing is to conceive of the pilot projects on the national shelf and give them a short trial run. On seeing their marginal success over practically a very brief period of time, the projects are cleared and taken to the grassroot beneficiaries Ironically, this is a very simple way of planning, but implementation and dissemination of projects, which have both economic and technological implications for the users. As a result a large majority of projects fail to click and become sick later on This results in losses and frustrations

Reasons for failure

The reasons why the pilot projects fail to click at entrepreneurial level are very simple and can be sumed up as follows :—

1 Pilot projects whether purely official or beneficiary-oriented are run under strict official supervision. The conditions governing pilot projects are more or less ideal or near-ideal Whereas the entrepreneurs' projects will be implemented at different places under varying conditions and availability of infrastructures.
2 Pilot projects get the best leadership, management and guidance, whereas the entrepreneur's projects are taken up by the clients themselves. In case of crisis, the leadership and guidance may not be readily available
3. Pilot projects may not initially cater to economic viability aspects as these are basically exploratory in nature and aim at eastablishing assessment of the projects for their clearance. Whereas the beneficiaries projects have to face both economic, social and environmental impacts as these involve real life situations
4. Pilot projects hardly cater to the study of the markets and outlets. Whereas the entrepreneurs' projects have to go by the market demands, rates of profit and the return on the investment in technology.

From the foregoing points, we can see that long trial runs are necessary for the pilot projects, before they are taken to the actual beneficiaries. Such projects should not be taken to the beneficiaries in 'one go' They should be taken to the selected beneficiaries in small measures on sample basis. Once, their economic viability is established and they find favour with the beneficiaries the authorities should go whole hog in taking them to the rest of the prospective beneficiaries. Such clients should be

(Contd. on page 34)

Liberalisation–An overview

Dr. R.R. Azad

The process of liberalisation initiated by the government in its industrial licensing policies has helped for the industrial and economic development of India. Yet the process of liberalisation is deficient in many ways, says the author. Hence he asks the government either to be fair in all respects while continuing with the process of liberalisation or abolish the system of licensing.

INDIA'S VERY FIRST INDUSTRIAL POLICY was announced on 6th April, 1948 by the then Industries Minister Dr S.P. Mukerjee to steer clear Independent India from the industrial crisis. It aimed at establishing a just social order, increasing production, determining the extent of State responsibility and limits of private enterprises and regulating the private sector.

The Policy envisaged a mixed economy with an over all responsibility of the Government for planned development of the industries and their regulation in the national interest. With a view to achieve the objectives of Socialistic Pattern of Society, some preventive measures emerged as important provisions One of the most important among them was the industrial licensing aiming mainly at regulation of industrial development according to plan priorities

For the purpose, The Industries (Development and Control) Bill was introduced in the Central Legislature in 1949 as a first step towards implementing the important part of the Industrial Policy Resolution-1948. The Bill declared certain specific industries as of all India importance and provided appropriate machinery for their promotion and regulating the industrial development of the country through the instrument of licensing. The Bill become an Act in 1951. The Industries (Development And Regulation) Act-1951, with some important amendments, holds good even today. Till 1956, the regulatory provisions of the Act remained more or less ineffective mainly because no clear directions were issued about the manner in which the regulatory provisions could be operated within the over all frame work of the national plan.

In the light of all these developments, the Industrial Policy Resolution-1948 was revised in 1956. The Industrial Policy resolution-1956 was passed on 30th April, 1956 and is known as the Economic Constitution of India even today. The resolution laid emphasis on the development of heavy and machine building industries; the expansion of public sector the establishment of a large and growing co-operative sector, and encouragement to the diffusion of ownership and management in the private sector

It was just to provide the economic formulation for increasing opportunities for gainful employment, improving the living standards and working conditions for the mass of people and to prevent concentration of economic power in the hands of a few persons Accordingly the Industrial Policy Resolution-1956 emphasized on the State assuring a predominant and direct responsibility for setting up new industrial undertakings and at the same time allowing private sector to develop and expand. This resolution still continues to provide the basic framework of the industrial policy of the Government of India

Since there has been no systemic attempt to implement the Industrial Licensing Policy, the Government was compelled by the circumstances to appoint various Committees and Study Groups and to invite experts' opinion on the subject from time to time The very first committee appointed in 1963 was 'The Industries Development Procedures Committee', popularly known as the 'Swaminathan Committee' It was constituted under the Chairmanship of Shri T. Swaminathan Later on, the Government appointed the Industries Planning And Licensing Policy Committee in 1966 under the Chairmanship of Prof. R.K. Hazari; the Industrial Licensing Policy Inquiry Commitee in 1967 under the Chairmanship of Shri S. Dutt; the Study Group On Industrial Regulations And Procedures in 1978 under the Chairmanship of Shri G.V. Ramakrishna; and the Committee on Industrial Licensing in 1979 under the Chairmanship of Shri H.P. Nanda In addition to these main committees and study group, the Government sought many

experts' opinions too The Cabinet Committee on Economic Affairs has also played a vital role in the revision of policy and its approval Thus the industrial licensing system has been subjected to detailed scrutiny from time to time by several high level bodies Thus, the Government started the process of liberalising the industrial policy gradually Although the origin of the process can be traced to the mid seventies, the major industrial policy changes gathered momentum since 1985

The starting point of liberalisation process is the Industrial Licensing Policy of February, 1970. The policy was formulated after taking into consideration the recommendations of Hazari Committee, Dutt Committee and the Monopolies Inquiry Commission The policy envisaged six sectors viz-the Core Sector, the Heavy Investment Sector, the Middle Sector, the Joint Sector, the Delicensed Sector and the Small Sector The policy also envisaged the substantial expansion of the public sector Entry of Large Industrial Houses in the Middle Sector, provision of foreign exchange on priority basis for setting up of units in the Core and Heavy Investment Sector, raising of exemption limit from Rs 25 lakhs to Rs 1 crore and the expansion of the area of reservation for Small Scale Sector were the main features of the policy

In continuing process of liberalisation, the Government announced their policy in 1973 with a good package of that time The Government included in the public sector the industries of basic and strategic importance, public utility services and industries requiring investment on a scale which the private sector could not afford With a view to facilitating priorities and production objectives and bring about a clarity in the investment climate, the Government removed contradiction between the definitions of larger industrial houses for the purpose of licensing and for control on concentration of economic power under the MRTP Act The Government made it compulsory for the larger industrial houses to obtain licences even in the delicensed sector They were, however, allowed participation in the establishment of 19 groups of industries given in Annexure-I to the Policy Statement, provided that the item of manufacture was not reserved for production in small sector or public sector

In order to remove the difficulties of prospective entrepreneurs with regard to delays in licensing procedures, the Government decided to streamline the procedure and set up Secretariate for Industrial Approvals (SIA) Through the Secretariate for Industrial Approvals (SIA) the government liberalised certain aspects of industrial licensing procedures such as raising of exemption limits of fixed assets of undertakings from Rs. 1 crore to 5 crore and reiterated the policy of reservation for small scale sector In 1977, the government liberalised their policy through their Industrial Policy Statement of Dec. 23, 1977. The Government raised the number of items reserved for small scale industries from 180 to 807 for promoting the growth of new entrepreneurship and ensuring the balanced regional development of industries. The liberalisation envisaged the introduction of a new tiny sector and creation of District Industries Centres for meeting all the requirements of the small and village industries. In order to ensure a balanced regional development of inudstries, the policy statement provided for considering favourably the proposal of shifting of large industries from metropolitan cities to backward areas Industrial Policy of 1980, further liberalised the industrial licensing procedure in areas such as raising the investment limits prescribed for small scale and ancillary units, endorsement of licensing capacity, extension of the provision of automatic growth to more industries, streamlining of licensing procedure to cut out delays, pollution control and prevention of ecological balance etc.

With a view to enabling the industrial undertakings to maximise their production by optimum utilisation of installed capacity was introduced in April, 1982. Under this scheme the capacity indicated in industrial licence could be re-endorsed, without obtaining a fresh industrial licence, with reference to the highest production achieved during any of the previous five years plus one-third thereof provided the undertaking had achieved a capacity utilisation of 94 per cent

Right from the year 1985, the continuity in liberalisation process picked up a faster speed with a view to achieve a rapid industrial growth. On 25th Dec., 1985, the Government announced the liberalisation in the Industrial Licensing Policy as a continuing exercise by extending new schemes. In the first scheme, 31 industries were delicensed. The scheme of delicensing was further extended to MRTP/FERA companies in respect of certain items of national importance having export potential, provided such undertakings were located in centrally declared backward areas

With a view to optimise utilisation of capacity and encourage large volumes of production, a scheme of broadbanding of industries was accorded to 25 select groups of industries to allow them to make rapid changes in their product-mix without losing time in seeking fresh licences.

It is worth mentioning that the Import-Export Policy announced on April, 1985 was another step to encourage the industrialists to be more competitive and enhancing their export-capacity. It was the very first EXIM Policy to remain in force for three years. According to this policy, the Government facilitated capacity creation for export by eliminating licensing restrictions and by allowing import of technology and capital goods not available in India. A number of capital goods needed for exports were placed on Open General License (OGL) with reduced customs tarriffs. An easier import policy was accompanied by reductions in cost of credit, retention of some foreign

exchange to help marketing, supply of critical domestic inputs at international prices and improvements in cash compensatory and duty drawback schemes. The major relaxation of this policy-liberalisation is the complete exemption of export earnings from income-tax

During 1986, the Government continued to liberalise further the scheme of re-endorsement of capacity introduced in 1982 In this continuation the undertakings which have achieved 80 per cent capacity utilisation could now avail of this facility. The undertakings which are able to achieve capacity utilisation equal to the re-endorsement level can get further re-endorsement according to their highest production achieved in the subsequent years. This scheme has been extended upto the end of Seventh Five year Plan period (1985-90). The procedure to re-endorse the the capacity has also been simplified.

To encourage realisation of economies of scale, the minimum economic capacity size for issuing letters of intent was announced for 72 industries According to which, new undertakings for setting up production facilities in any of these 72 industries will have to instal the minimum 'optimum sized plants', while the existing units can expand their capacity to reach the minimum stipulated size

Many provisions concerning MRTP companies have been modified in the continuing process of liberalisation These include the raising of assets limit from Rs 20 crores to Rs 100 crores, exemption from section-21 and 22 of the MRTP Act in respect of 79 industries, enlarging list of industries of Appendix-I where large houses can participate, and liberalising export obligations on MRTP companies for setting up units in specified backward areas

A continuous process of liberalisation can be seen during the recent months of 1988 In the month of April, 88, the Government announced a major relaxation allowing a scheme of automatic re-endorsement of capacity According to scheme, the industrial licences or registrations with technical authority level of out put actually achieved by the industrial undertakings in any of the financial years between 1st April, 1988 to 31st March, 1990. An investment upto 10 per cent of the book value of the plant and machinery is also allowed to the undertakings, for maximising their out put The scheme is available to MRTP and FERA companies and to all items regardless to the coverage of First Schedule of I (D&R) Act and locational restrictions.

The investment allowance to high priority industries was also re-introduced after the scheme of automatic re-endorsement of capacity.

In continuation with the major policy relaxation, the Government, on June 3, 1988, announced a major package of industrial delicensing and incentives to accelerate the pace of industrial growth and also provided a strong stimulus to industrialisation of backward areas The industrial licensing policy was liberalised in a very substantive manner. The maj policy changes effected in this package were as und :-

(1) The investment limit exempted from licensi was raised to Rs. 15 crores for Non-MRTP/N FERA companies for industries located non-backward areas and to Rs. 50 crores f industries located in centrally backwa areas.

(2) The exemption limit of the projects requiri foreign exchange component in delicensi sector was raised to 30 per cent of the e factory value of producation. Previsously was 15 per cent or Rs. 75 lakhs which ever lower.

(3) The number of industries requiri compulsary licensing was reduced from 56 26 by merging into one the existing lists industries in Schedule IV and V of th notification under the I (D&R) Act.

(4) For the development of backward area growth centres would be developed in 4 odd districts The centres would act as th magnet for attracting industries to backwa areas. To begin with, at least 100 grwo centres would be developed throughout th country over next five years. Each grow centre would be provided with funds of th order of Rs 25 to Rs 30 crore to crea infrastructural facilities Further develo ment of growth centres would be extende over the next 10 to 15 years covering most the backward areas of the country. Th existing mechanism of capital subsidy for th development of backward areas wou continue.

(5) In its continuity to liberalisation, the Gover ment increased the validity period of letter intent from one to three years on 11th Jur 1988 After expiry of three years, the validi period can, further, be extended for one ye at a time for a total of two years by th administrative ministries. The validi period policy will be effective automatical from 1st June 1988. It is hoped that th relaxation will make an applicant able to tal effective steps for implementation of h projects such as arranging for foreig collaboration, import of capital good finance, land, water and power facilities et from various central and state agencies

In light of over all policy liberalisations the Goverı ment has recently liberalised some provisions of th Companies Act-1956 also.

Thus, the process of liberalising the industri policy was set into motion a few years ago but distinct thrust has been given recently to accelerat industrial development in the country In persuanc of this objective as well as need for planne development, it has been the policy of the Gover

ment to continue with the process of de-regulation, minimising controls, more efficiency and more competitive conditions. So the process of relaxations became such feature of continuity that reaches finally to the terminus of liberalisation again and again and that too with some additional and new paramounts.

Industrial Growth

The liberalisation policies have resulted in growth competition, quality conciousness and new look towards the export market. More competitive conditions are emerging in several industries. There is a greater awareness regarding quality and price of product. The industries are paying more attention to marketing through improved packing and better organised distribution network. Technology has also played a key role in industrial and business environment of our country. The continuing process of liberalisation has an over all impact on our industrial sector.

Industrial approvals

The impact of liberalisation on Letters of Intent issued, Industrial Licences granted, Registration with SIA and DGTD and Foreign collaborations approved can be seen in Table-I given below.

Table-I depicts that the Letters of Intent and Industrial Licences issued in 1987 showed decline of 12.5 per cent and 23.6 per cent respectively over 1986 in the country, as a whole and 13.8 per cent and 30 9 per cent respectively in backward areas only Registrations issued by SIA for delicensed industries have declined by 21.7 per cent in 1987 over the previous year after recording a growth of 104 per cent in 1986. Registrations issued by DGTD recorded an increase of 3.4 per cent in 1987 over 1986. Edorsement made in Industrial Licences for broadhanding also showed a decline by 1.8 per cent along with 5.2 per cent decline in Re-endorsement made under the Scheme of re-endorsement capacity. The mark of decline in the percentage of the cases approved under minimum economic scale, capital Goods Committee (main) total approved and Foreign *Collaborations* is 44, 11.8 and 11 per cent respectively.

It indicates that the number of declined industries has gone up; there has been better capacity utilisation; there is expansion in capacity in the existing industries made possible by re-endorsement of

Table I

Industrial approvals

1	*Unit* *2*		*Period* *3*			*Percentage Change* *4*	
		1984	1985	1986	1987	1987/	1986
1 Letters of Intent a All-India	Nos	1084	1457	1130	989	—	12.5
b Back ward Areas	Nos	627	774	621	535	—	13 8
		(58.9)	(53 1)	(55 0)	(54 1)	—	
2. Industrial Licences a All-India	Nos	905	985	618	472	—	23 6
b Backward Areas	Nos	323	427	278	192	—	30 9
		(35 7)	(43.3)	(45 0)	(40 7)		
3. Registrations issued by SIA for delicensed industries	Nos	—	1167*	2387	1869	—	21 7
(i) of which to Backward Areas	Nos	—	681*	1483	1097	—	26 0
			(58 4)	(62 1)	(58 7)		
4. Endorsement made in Industrial Licences for Broadbandings	Nos	-	52	110	108	—	1 8
5 Re-endorsement made under the scheme of re-endorsement of capacity	Nos	—	—	192	182	—	5 2
6. Cases approved under Minimum Economic Scale	Nos	—	—	112@	62	—	44 6
7 Registrations issued by DGTD	Nos	1915	1981	1162	1201	+	3 4
(i) of which scheme in Backward Areas	Nos	1144	1140	610	648	+	6.2
		(59 7)	(58 1)	(52 5)	(54 0)		
8. Capital Goods Committee (Main) Total Approvals crores		713 5	747 6	1110 9	980 3	—	11 8
9. Foreign Collaborations	Nos	732	1024	958	853	—	11 0

(Figures in brackets indicate percentage to total). * SIA Registrations started in May 1985 only @ Stated in 1986 only. Source-FICCI

capacity; the investment in the existing industries has increased; and positive growth rates are recorded by capital goods industries and foreign collaboration.

It is clear from Table-II that investment in the existing industries has increased instead of investment in new industries because the percentage change of capital raised is approximately four times higher than of the capital approvals. The same view is supported by financial assistance sanctioned and disbursed by the Financial Institutions also. It is an indicative to lower casuality rate of industrial licences.

Capacity utilisation

The liberalisation regarding the re-endorsement of capacity and broadbanding of industries and policy regarding minimum scales of operations etc. resulted in better capacity utilisation. According to the data available, the index of over all capacity utilisation increased from 73.3 per cent in 1980 to 78.9 per cent in 1984, and further to 80 per cent in 1985. However it declined marginally to 79.1 per cent in 1986 and to 78 per cent in 1987

Foreign trade

India's foreign trade spurted due to the liberal policy measures of the Government. The trends in exports, imports and balance of trade during last five years are given in Table-III.

Table-III shows an spurt in India's exports since 1983-84. There is a gradual decline in balance of trade since 1985-86 and it is declined by Rs. 900 crores in 1987-88. The improvement in position of balance of trade is due to phenomenal growth rate over 25 per cent in exports.

Industrial growth rates

It is depicted by the table-IV given below that industry has attained high growth rates from, 1983-84 onwards and went down by 1.4 per cent in the year 1987-88. It is worth mentioning that performance of the industrial sector has been appreciable even in the year of drought, 1987-88.

Table IV

Industrial growth during the last eight years

Year	*Percent*
1980-81	4.0
1981-82	9.3
1982-83	3.2
1983-84	6.7
1984-85	8.6
1985-86	8.7
1986-87	9.1
1987-88	7.7

Source : Ministry of Industries, Deptt. of Industrial Development.

Table II

Capital Approvals And Financial Assistance

1	*Unti* *2*		*Period* *3*		*Preçentage Change* *4*
		1984-85	1985-86	1986-87	1987/86
1 Capital Approvals (excluding Loans)	Rs crores	2003.0	3685 0	5843.1	+ 38.1
2 Capital Raised (including Bonus)	Rs crores	991.8	1229 6	3905.8	+ 217.6
3 Financial assistance sanctioned & disbursed by Financial Institutions			April-March		
		1984-85	1985-86	1986-87	
a Sanctions	Rs crores	5647 6	6613 1	8157.2	+ 23 3
b Disbursements	Rs crores	3501.8	4924.3	5653.2	+ 14.8

Source-FICCI

Table III

India's Foreign Trade

Year	*Exports*	*Percentage variation*	*Imports*	*Percentage variation*	*Balance of trade*
1983-84	9770 71	+ 11.0	15831.46	+ 10.8	− 6060:75
1984-85	11743 68	+ 20.2	17134.20	+ 8.2	−5390.52
1985-86	10894 59	− 7.2	19657.69	+ 14.7	− 8763 10
1986-87	12550 06	+ 15.3	20062.57	+ 2.2	− 7512.51
1987-88	13719.36	+ 25 3	22343.02	+ 11.4	− 8623.66

Source − IIFT

However, the response of different industries to the new competitive conditions has not been uniform. It may result in varying growth rates Since the growth has been highly uneven as is attributed largely to contributions made by different individual industries, it may reasult in varying growth rates It can be mentioned that the industrial growth of India went up with the pace of liberalisation in one way or the other

Liberalisation-contentions and propositions

Liberalisation has certainly increased the pace of industrialisation but it could not come upto the mark. It is still deficient and contented in many ways A few points are of grave concern in this regard such as :—

It is very troublesome that an entrepreneur has to scan through carefully near about fourteen lists before deciding on applicability or otherwise of licensing provisions. Government clearances are often delayed Even, the clearances from Banks, State Electricity Boards and Pollution Control Boards are delayed Delicensing has never been comprehensive. Reservations for public sector are undesirable in an area of competition The process of liberalisation has been subjective to most pressing circumstances of political, commercial and economical changes It lacks a planned, phased and regular system of continuity The liberalisation is governed by the multiplicity of controls It need to be free from undue terms, conditions and restrictions It is asserted that liberalisation has become a continuous process to remove the multiplicity of controls but our economy is still going on with the crippling burden of controls

Liberalisation needs to be followed up by a clear policy for technology upgradation

Various policies regarding product reservations for small scale sector, regional dispersal of industries, control of MRTP and FERA companies, import of raw material components and capital goods, pollution control and financial assistance have been made in integral part of industrial licensing system though each of these have seperate policy instruments

There is no justification for making the issue of industrial licence conditional to import clearances when a full fledged import policy is already in force

In light of all these points, we look into the prospective policy measures to continue with liberalision There are clearly two opinions on the topic of liberalisation. First is that "Liberalisation is a continuing process and will continue so that eventually the country is freed from the crippling burden of controls." Second is that "liberalisation should come to an end and licensing should go now "

In both of the above mentioned opinions, there is a sharp vision to an appraisal of the conditions and circumstances wherein the restrictions and controls are usually laid and liberalised. What at present, is needed to our industrial growth, is a free, fair and competitive environment. The entrepreneurs never wish to see their enterprises/units dying or crippling in the cruel hands of controls and uncertainities. Rather, they prefer to let their enterprises/units be deserted or die in an environment of open competition for self reliance, existence and growth. It should, ofcourse, be the principle for the growth of an economy

However, the most genuine factors are to be considered to seek justification for the positive approach in continuity of liberalisation.

A number of committees are involved in granting the clearances Viz-Licensing Committee, Licensing cum MRTP Committee, Foreign Investment Board, Project Approval Board, Capital Goods Committee, Special Committee of Secretaries on Fertilizer Projects, Board of approvals for 100 per cent export oriented Undertakings, MRTP Committee and Export Processing Zones etc. Naturally, the procedures have become complicated and time consuming

It is most pressing requirement of the time that all sorts of clearances should be made speedy without any ifs and buts and undue delays. The very old conception of "Single Window Clearance" has regained its significance The Government should establish an apex committee under the Ministry of Industry including the representatives of other concerned Ministries, Departments, Boards, DGTD and Planning Commission etc. The apex Committee should adopt a procedure of clearances within one month or by holding its regular meetings weekly/fortnightly The applicant for licence should be asked to clear all doubts and to submit additional informations further, if required. The apex committee should consider the proposals for clearances from all angles After this the decisions should be taken then and there and conveyed to the applicant without any loss of time.

There should be a seperate window for granting clearances to 100 per cent export oriented units.

Need for obtaining prior clearance from State Pollution Boards should be dispensed with as it is a delaying factor There should be clear guidelines and the Board should give clearance if the element of Pollution is within specific limit.

The delicensing limits should be equal to all undertakings (Non-MRTP, Non-FERA, MRTP and FERA) irrespective of their location in backward areas or non-backward areas. The main objective of development of backward areas can not be fulfilled through a distincitive gesture of liberalisation based on the criteria of areas or undertakings. Rather, infrastructural facilities, fiscal and financial incentives should be made too attractive and open to become the chief considerations to set the industries in backward areas by all types of undertakings and business groups.

Recent revision of delicensing limit may, certainly, be justified and appreciable but it does need moderacy in coming future, if not now.

The concept of large houses has become out dated and irrelevant under present circumstances. Monopoly should be defined in terms of the market share and not in terms of value of assets.

It is highly considerable that licensing should be made automatic to the units where-(i) the import content is less than 10 per cent of the investment. (ii) the foreign exchange is less than 30 per cent ot the value of production; (ii) the enterprises would be a net foreign exchange earner

The enterprises, which propose to export more than 25 per cent of their output, should be exempt from licensing provisions and MRTP regulations. These enterprises should also be provided financial facilities at concessional rates.

The Foreign Exchange and Regulation Act should be modified substantially to bring its confirmity with the present international business practises. With a view to expediting of clearances, implementation of the provisions of FERA should be vested in the regional offices of Reserve Bank of India. Foreign investment procedures should be made simple and less time consuming.

This is high time to expand the technology upgradation scheme to cover whole industrial sector in addition to a few capital goods.

On the matters of taxes, duties and import etc, the Government should treat the public and private sectors at par. There is an immediate need for reducing import duties on capital goods.

There is a need to have a new look at reservation policy for the public sector and the small scale sector The policy should be reviewed in light of past experience and development short-falls that have surfaced.

Government policy to develop growth centres in backward areas is a right step for the development of backward areas. But, while making a choice of centres, Government should consider deeply economic factors such as local incomes, availability of raw materials, level of agricultural development, existing level of infrastructure, distance from major markets etc.

The import duty structure needs a revision. As a matter of fact, duties on final products should be higher than on raw materials and intermediates.

Keeping in view the above factors, the process of liberalisation needs to be continued to frutify the main objective of rapid industrial development. What is to be noted in this context, is that the whole package of liberalisation marks every time a new phase to accelerate industrial growth in the country and mainly in backward areas.

It is worth mentioning that the Government has not gone wholehog in liberalisation since the policy measures for delicensing are limited to non-MRTP and non-FERs companies and that a large number of companies, who are in a position to invest, have been kept out of the purview of latest policy package. In fact, the latest decision of Government meets half-way only the major reform proposals which were mooted by the Planning Commission in its industrial policy note prepared in 1986. This note called for delicensing of the MRTP and the FERA companies also in order to encourage them to invest in big way in new Industries. However, the latest continuing process of liberalisation can be considered as a major policy measure of the Government but not a perfect one. Mr J Vengala Rao, Union Industry Minister has rightly observed that "liberalisation should not be regarded as an end itself but only as a means to an end".

All is welcome But the question does arise: Is it necessary to continue with the process of liberalisation or to ratain the industrial licensing system at all?

It has been proved that the Government has chosen delicensing as a liberalisation measure for achieving specific objectives of promoting industries, stepping up exports and realising the latent growth impulses of the economy. There is, of course, the need to protect small scale industries and to ensure the balanced regional and backward area development. Also a measure of control on monopoly will need to be retained

This is high time to retrospect and come forward with any of the two strong views Either the Government must have a courage to be fair in all respects while continuing with the process of liberalisation or the licensing should be abolished. The continuing process of liberalisation is, no doubt, important for accelerating industrial growth. Naturally, the liberalisation measures present greater opportunities and pose greater challanges as well. But industrial licensing system must longer act as a barrier to the industrial growth and competitiveness of the enterprises The real test of policy package will fall in 21st century. It is the Government to face the test and not the policy makers, the commissions and the Committees. □□□

LIC to give housing loans

Life Insurance Corporation is to identify 300 centres in the country for grant of intensive housing loans. These centres will be selected from among the middle level cities in the country. The LIC and GIC have been directed to give top priority to house-building activity by resorting to direct lending to beneficiaries.

A time bound action plan for LIC and GIC has also been announced for the settlement of claims. These agencies have been directed to pay special attention to improvement in customer service. □□□

Nehru and Industry

Dr. S.M. Patil

In this article the author says that India, after attaining independence has built a strong and sound industrial basis through the great mission of Pandit Jawaharlal Nehru.

I AM BEHOLDEN TO THE ORGANISERS of the Symposium for having invited me to speak on 'NEHRU AND INDUSTRY' on the occasion of the Pandit Jawaharlal Nehru Centenary Celebration. I am also greatly honoured by them for giving me this opportunity to pay my own humble homage to the memory of this great personage and the "Jewel of India" as Gandhiji christened him I am honoured because I have been asked to share this platform with galaxy of distinguished scholars, administrators, economists and social scientists among whom Prof Dr. V K.R.V. Rao is one colossus who had been intimate with Panditji, particularly during the early years It is recently made known that, Dr Rao had Panditji and his illustrious daughter Mrs Indira Gandhi to his flat in Cambridge for breakfast during 30s when they were all in U K Hence, he is ideally competent and indeed the most appropriate person to speak about Panditji and his contribution to the Nation However, I have emboldened myself in accepting the invitation to speak on this occasion since I want to pay the debt of gratitude I owe to this great soul, Panditji

There was a time during the early 1950s when it had been strongly recommended that the HMT Project should be abandoned and the machinery and equipment be sold to the private sector machine tool units in the country. The immediate reason for this was that, though the agreement to set up HMT with the collaboration of M/s Oerlikon Machine Tool Works, Buehrle & Company, Zurich, Switzerland, had been signed in early 1949, the Project was not making any progress and had in the opinion of the critics, become a colossal national wastage The private sector machine tool lobby was so strong that during the third quarter of 1953 to answer the public criticism, the Government summoned the immediate return of the Chief of the Project, Late Shri S.S Iyengar, from Zurich, where he had come to monitor our training programme at Oerlikons. It was later learnt that, because of Panditji's personal intervention, the HMT Project survived though with greatly diminished out-lay, and drastically curtailed programme of production.

While inaugurating the first Unit of HMT in Bangalore during October 1955, Pandit Nehru, had said that, HMT Project disappointed him and his countrymen because of its tardy progress and he was not impressed by the greenery and the show of flowers put up for the Inauguration Ceremony He remarked "I like flowers but in their proper place and I would have expected to see machines coming out of the Factory than flowers "

During middle 1961 when Panditji again came to inaugurate the second HMT Factory in Bangalore, he was so happy that, he termed the Unit as the 'Gift to the Nation' since it had been built out of our own internal resources. As the General Manager of the Unit, while proposing the 'Vote of Thanks', I seemed to have had the courage of mentioning that, Panditji should now be happy to see machine tools coming out of the Factory besides a good show of flowers and green lawns around the buildings. Panditji was magnanimous to accept the remark, sportingly

His extraordinary interest and timely assistance to HMT was great Though the Project was comparatively small, his commitment to the growth of the Indian Machine Tool Inudstry was amply demonstrated by his frequent visits to HMT, some even unannounced In one of the visits during late 1961 in the absence of our Managing Director, I wanted to take him around the factory, but he desired instead that I take him to the workers housing. I mentioned to him that, we had just started building our colony, since it was the Company's policy to provide amenities to the employees, only out of our own surplus funds. Even so, he desired that, I show him one of the sixteen worker's quarters we had then recently constructed Panditji said, "I am happy that, you have been able to rehabilitate some families from slums by providing them with clean modern housing amenity " This was his basic philosophy and generating profits was perhaps not so much uppermost in his mind.

When he was in Bangalore to attend the AICC Session I think during early 1962, in one afternoon, he

suddenly decided to visit HMT factory. In the absence of our Managing Director, I had the privilege to show him round our Assembly. While going round, he abruptly stopped and mentioned to me that he had lost his pen. Much against the objection from his Security Officer, I dared to search the inside pocket of his old brown khadi wollen 'Sherwani'and found that the lower half of his Swan pen had conveniently entered the inner lining of the jacket through a small hole in the pocket and had deposited at the bottom edge of the flap. When I tried to bring it up, I found that ink had leaked all along its way down. This did not bother Panditji in the least, since he was enjoying himself watching more satisfying things viz. men and machines working. The last I met him was on 26th October 1963 when he inaugurated the HMT's third Unit at Pinjore, in the then undivided Punjab. By then he had suffered a serious set back in health, and become very weak. But even so, he gave a long and inspiring speech. This was his last visit to HMT.

I am narrating these small incidents, mainly to highlight the fact that, Nehru had a great personal commitment and intense desire to see that the Indian Industry, particularly in the public sector, attains greater and commanding heights and contributes substantially to the economic growth and development of our country. After all, he was the architect of the public enterprises in India, and never lost a chance to pay visits to many of these enterprises, to see for himself progress. Such kind gesture on his part undoubtedly gave all of us great encouragement to live up to his expectations. On the occasion of the inauguration of the Bhakra Nangal Project, Panditji termed these projects as temples of the New Age, He said, "as I walked around the site, I thought that these days, the biggest temple, and a mosque and a gurudwara is a place where man works for the good of the mankind"

The plan of industrialisation of India, did not occur to Panditji just after he became the Prime Minister. He had been contemplating and nurturing this idea way back during. the early period of independence struggle However, it is something of a paradox that, Gandhiji who was always critical of the Western civilization and way of life and who incessantly advocated the need of establishing cottage industries and Nehru, with his declared bias for modern industrial development, were drawn closely together in the Congress struggle for freedom. But Nehru, who had all along been advocating the need for larger industrial base for the country, soon reconciled his concepts of industrialisation with Gandhiji's programme of manually operated cottage industries which were labour intensive. Similarly, Gandhiji, though differed from Nehru in such matters, gave his blessings to the formation of National Planning Committee, with Jawaharlal Nehru as Chairman in October 1938 with the main objective of preparing an amibitious programme of socio-economic and industrial development plan This gave a decisive turn to thinking on economic problems in India. It is well-known that the intellectual lead came from Nehru and in the midst of his political activities, he gave a great deal of time to the work of national planning. Big decisions were thus taken in principle during 1940s which are now influencing the various actions taken by the Government in our Five Year Development Plans.

Taking the historical perspective of industry as whole, since the beginning of Industrial Revolution over 300 years ago, one can see a distinct pattern of development. Whether in England or any other industrialised country of the world, the general pattern of development seems to have been to lay greater emphasis on consumer goods industry. It is only after considerable development of consumer goods, and consumer durable industry, that a country usually developed a sufficiently large market for capital goods and then in the second stage, we see the development of capital goods industry as a natural consequence. In England, about seven to eight decades had to lapse between the Industrial Revolution of the textile industry and the emergence of engineering industry as a major component of the capital goods industrial structure. It was only around 1840, that England emerged as the Workshop of the world.

Relying on this historical experience of the advanced countries, immediately after India's independence in 1947, many economists in the country and abroad, advised Panditji that he should concentrate first of all on consumer goods industry and wait for a few decades before launching upon the basic and heavy capital goods industry. However, Panditij through his farsightedness, took a deliberate policy decision to establish and develop the basic and capital goods industries on top priority in the overall scheme of industrialisation of the country. He therefore decided during 1950s to launch upon major effort to develop basic metallurgical industries like steel, aluminium, zinc, copper and other metal industries, capital goods industries like machine tools, electrical and non-electrical machinery and similar machine building industries at the beginning of the process of India's industrialisation, which as you all are aware, has paid rich dividends.

Before Independence, the country had four basic features . (i) There was no capital goods industry worth the name; there were a few engineering shops, primarily designed to supply the needs of the British Indian Railways and there were two steel mills in the private sector, producing roughly a million and a half tons of steel per annum; (ii) the entire infrastructure needed for acceleration of the industrial development in terms of power, water, transport and off-site facilities were lacking; (iii) the level of the Indian agriculture was depressed, unit output low and labour land ratio adverse. Neither there was any system of inputs in terms of which both the fertility and the output of land could be raised apart from the extensive use of land resources; and (iv) there were no other avenues of gainful employment besides

agriculture All this had certainly lead to the depressed level of income, consumption and savings.

Panditji, heading the Government of independent India, took a policy decision to (i) improve agriculture, (ii) develop the country's basic and capital goods industries through establishment of large and heavy industries in the public sector; (iii) enlarge manufacture of mass consumption goods mainly in the private sector, and, (iv) develop the infrastructure for rapid industrial development

These being gigantic tasks, it was perhaps natural for Panditji to direct his Government to take the lead The result of this was, that the State emerged as the principal instrument of social and economic transformation and also the dispenser of resources. From this, it followed that the developmental strategies in all the economic spheres had to be determined by the State in order that the resource allocation for different sectors of economic development could be done in the a manner so as to achieve the inter-sectoral balance in the development process, compatible with the frame-work of socio-economic objectives This is where the concept of India's Five Year Economic Development Plans became important and possibly inescapable in the economic situation in which India was placed immediately after independence

Panitji took an other fundamental decision at the initial stage of development, which was, that Indian economy should be structured on the mixed pattern which meant that while there necessarily will have to be a massive and progressively dominent share of the Government in the economic development, there should also be a legitimate, definite and significant place for the private initiative In what manner these two lines of activities could be synchronised at different points in time and in different stages of development, had been the principle objective if the planning exercise in India Thus, the emergence of public sector in India was conceived by Panditji which was the principal instrument of industrial development and was expected to play an important role side-by-side with the private sector It is not as if industrial development had been exclusively conceived by him in the public sector In fact, number of private enterprises, large, small and medium were encouraged by him through preferential finance, network of fiscal reliefs and also infrastructural promotion to accelerate and promote the efforts through self-reliance in the basic and capital goods sectors

Thus, during the last four decades of independent India, the country has achieved substantial growth industrially and is to-day, ranked as one among the 12 highly industrialised countries of the world Among the core industries, steel production in the integrated steel plants has significantly increased The non-ferrous metal industry like aluminium, copper and zinc has also grown considerably Cement production has raised to an extent that the country has been become self-sufficient in her cement needs. Among the agricultural input, production of fertilisers has made great progress. Petroleum refining capacity in terms of crude output has reached two thirds of the country's annual requirements, which have grown considerably.

Large investments have been made in the engineering industries for diversifying production in the public and private sector as also in securing better utilisation of capacity New machinery manufacturing capacity has been created in varieties of engineering has been in the capacity and production of basic and intermediates required for synthetic fibres, plastics, aromatics, dye-stuffs and related industries In Drugs and Pharmaceutical industries, the country has made significant progress. There has been a substantial investment in other industries like paper newsprints and so on.

Industries now produce a wide range of textiles of different fibre, natural and manmade, leather and leather-goods rubber and rubber products, drugs and pharmaceuticals, construction materials and machinery, large number of organic and inorganic chemicals and electrical and non-electrical machinery

India's industrial capacity to-day encompassess the entire spectrum of manfactured products These range from engineering goods and consumer durables such as automobiles, tractors, bicycles, refrigerators, radios, airconditioners, television receivers, etc. to a comprehensive range of sophisticated machine tools, industrial plants and machinery, transmission towers, power station equipment, industrial machinery of highly specialised nature for cement, sugar, paper, textile factories, refineries, fertiliser plants, petrochemical, steel mills, etc., and also, technology intensive products such as aircrafts, ships,, nuclear equipment, micro electronic products like computers and computer software and computer peripherals, and so on. In the defence area, we are almost self-sufficient in the modern conventional weapons. Thirtyfive ordnance factories are now contributing to the defence mite of the country, Production of all these critical and vital inputs that are of basic importance to our economic development has been an essential feature of our emerging industrial structure Thus, there has been a clear shift towards capital and basic goods industry, which provides the sinews for India's modern and strong industrial base for producing innumerable consumer goods. In a matter of only four decades, Indian industry is thus capable of making wide range of industrial products, both in the capital goods sector and the consumer goods sector, in short, from 'soaps to satellites' the country has become more or less self-reliant This indeed is not an inconsiderable achievement. All this enormous progress in terms of stable and sound industrial and technological base that has been built up is through the great vision of Pandit Jawaharlal Nehru, after India attained independence □□□

Evaluating 'Health for all by 2000 A.D.'

Dr. S. Siva Raju

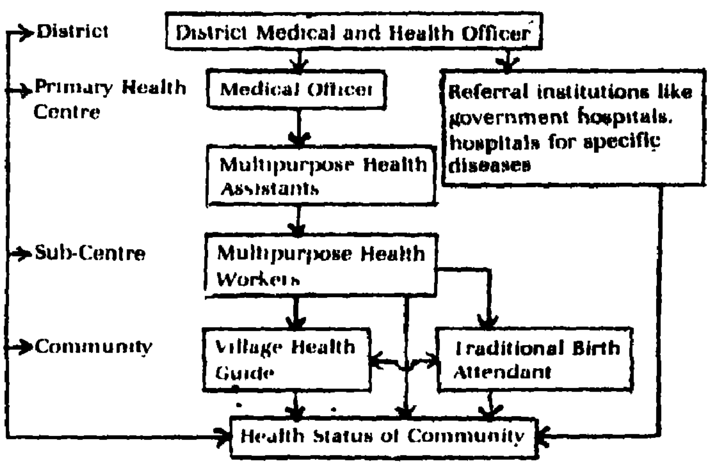
The author here refers to the concept of Primary Health Care, evolved at Alma Ata Conference in 1978 and suggests that conducting of comprehensive evaluation studies is quite necessary in order to assess the performance of the 'Health for all by 2000 A.D.' programme after completion of the first decade of it. The author also feels the need for coordination between government and non-government health sectors, so that the fruits of Health care programme may reach all and sundry in the country.

PRIMARY HEALTH CARE, THE CONCEPT EVOLVED AT ALMA-ATA Conference in 1978 to achieve the goal of 'Health for all by 2000 A D' is defined as "essential health care based on scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a low cost that the community and country can afford to maintain at every stage of their development, in a spirit of self-reliance and self-determination" (World Health Organization, 1978 Report of the International Conference on Primary Health Care) As a member country which endorsed the declaration, our country has evolved the targets to achieve by 2000 A.D Already ten years have passed since the declaration and we are left with only 12 years to reach the goal. In this regard, it is very important to look at the performance of the programme by conducting comprehensive evaluation studies.

Collective effort

A review of studies conducted so far, on the health care system in our country shows that most of the studies have evaluated various health programmes launched by government from time to time, like, functioning of government health centres, the implementation of multi-purpose health workers programme, community health volunteers scheme and also measured the extent of utilization of some specific health programmes either individually or along with some other programmes. No doubt, these studies have focussed on the implementation of various schemes evolved by government. However, the programme implementation is a collective effort of various health personnel working at different levels, especially from district to community level. There exists constant interaction among the health personnel like District Medical and Health Officer at district level, Medical Officer, Block Extension Educator and Multipurpose Health Assistants at primary health centre level, Multipurpose Health Workers at sub-centre level and village health guides and traditional birth attendants at community level, during the implementation of various health programmes in the community (fig 1).

Fig. 1 Health Personnel involved in Delivery of Health Care Services to the Community



From the above chart, it is observed that several health personnel are involved in the delivery of health care services to the community So, while evaluating the programme, it is very important to study all the health personnel mentioned above and the extent of cooperation and coordination that exists among them In this context, the following aspects may have to be taken into consideration ·

(i) The health worker's job functions,
(ii) The functioning of various referral centres,
(iii) The extent of cooperation and coordination

existing among various health personnel.

(iv) The extent of cooperation and coordination existing between the government and non-government health sectors, so as to make efforts for maximum utilization of non-governmental organizations in health sectors

Inspite of several efforts on the part of the government, the health care programmes are not reaching fully to the ultimate consumers. It is observed that only a small section of the population is utilising government health programmes and the rest of the population prefer either home remedies or private medical practitioners during their ill health. Thus the private medical practitioners occupy an important place in the health care system, especially in the rural areas. Similarly, the involvement of non-government agencies in promoting the health status is highly appreciable.

Primary health care

Primary health care includes many components like community participation, social structure, physical factors, availability of technological tools, indigenous health practices, and linkages between new and old technological systems for curative and preventive health services in the community. As delivery of health care is to reach everyone throughout the country, there exists a necessity for optimum integration of various components of health care system depending on the socio-economic and cultural background of each community. In this regard, comprehensive evaluative studies on the existing patterns of health care services by taking into consideration the various components of primary health care like government health programmes, role of private medical practitioners and non-governmental organisations, involvement of multi-sectoral developmenal programmes and community participation have to be carried out. Such comprehensive evaluation will help us to evolve a pattern that will be feasible in terms of manpower, money, equipment and other facilities and will also be acceptable to the people which ultimately help us to achieve the goal of 'Health for all by 2000 A.D.' □□□

(Contd. from page 8)

(i) To begin with, area skill occupation survey followed by indepth technoeconomic survey of the various sectors of industry located in different regions at district level should be conducted to understand the present and future occupation skill needs of the region; (ii) Broad occupational groups should then be identified on the basis of the study for developing vocational learning programmes with a fairly broad base of employability as against narrow trade oriented skill training programmes. For examples, radio, electronics, wiremen, electrician skills should be grouped together in one course; (iii) The curricula design should include a balanced and well coordinated core science and mathematics study in addition to practice oriented skill training. The skill training at each step should be linked with the scientific process and facts involved in a phenomenological manner and learning should necessarily be cognitive in nature. Subjects should include study of the immediate environment (eco system), basic entrepreneurship and languages. This broad base with an effective skill development focus can be achieved only with very economic and efficient can be achieved only with a very economic and efficient selection and development of learning materials. A text book orientation is bound to fail, (iv) Such a programme calls for a modular approach with well focussed submodules, each submodule carrying proportionate credit and facility for continuous evaluation; (v) The submodules should be so designed that they may be administered to the 'practicals' already in employment for developing the physical understanding of the skill or for raising the level of the skill. This will form the base for continuing education in the technical/vocational field, (vi) There should be built in provision in the vocational certificate programme for linking it to the next learning module for improving their qualification for vertical mobility. Thus, a certificate holder should have the chance to become a professional engineer in course of time to successfully climb the ladder of higher and higher responsibility and status, (vii) There should be built-in flexibility in curricula structure to meet the demand of emerging technologies through submodules of continuing education; (viii) Appropriate modules of bridge courses should be developed to bring the practicals to the level of vocational certificate through continuing education in order to increase their productivity, make transfer and diffusion of technology for technology upgradation easier by updating the knowledge, skill and information base of the labour,

(ix) The spectrum of technical manpower over the occupational levels should be linked through multiple terminality and multiple input within the technical education continuum for effective linkage between the occupational levels; and (x) The compartmentalised class concept of blue and white collar jobs should be forever banished.

(xi) Both at the national and regional level, technology transfer should be a systemic transfer as explained above and not a product or hardware transfer unrelated and not relevant to the five 'M's of the systemic definition of the technology. □□□

Is giving up smoking impossible ?

Dr. M. Muralidhar & K. Daniel Raj

In this article the author quote various scientific studies which reveal that life expectancy is significantly shortened for smokers at any stage and they are prone to lung cancer. To make the smokers give up smoking, smoking control programmes and campaigns should be started, say the authors.

"CIGARETTE SMOKING IS INJURIOUS TO HEALTH' says a statutory warning on the cigarette packets. Last year the World Health Day on April 7 was declared and observed as "No smoking day" to generate awareness about the pernicious effects of smoking. Many confirmed smokers kept off or tried to keep off from smoking and for them it was a "great one day feat " Of course smoking is an international man-made epidemic and if we delve a little, its effects are startling. Nevertheless, it is preventable if not completely eliminable.

According to Public health Resources in Australia, 23,000 people die of smoking each year because of diseases related to tobacco smoking. Of these deaths, 9000 die through damage ot the blood vessels of the heart, 6000 from cancer, mostly in the lung but also in the mouth, throat, kidneys and pancreas

People who start smoking at early age are likely to become drug addicts at a later stage, according to a survey conducted by the Delhi Police sponsored foundation for correction, de-addiction and rehabilitation of drug addicts-56% of the drug addicts were people who began smoking between the ages of 9 and 15 years Smokers graduated more easily to soft drugs like cannabis and hashis and thereafter to hard drugs including smack

Tobacco was first introduced in Europe in mid-sixteenth century and spread to almost all the countries in the world In India bidi smoking is most prevalent in rural areas and cigarette in urban middle and above middle classes (upper income groups). There are an estimated 25 million cigarette smokers and about 125 million bidi smokers in the country. If we compare the bidi smoke with that of cigarette we find more harmful ingredien' in bidi smoke It is because of the 'tendu' leaf wrapper used for bidis. Many bidi smokers are switching to cigarettes not because of the knowledge of harmful effects but because of "social compulsions" and there are various traditional forms like hookah and cheroot still popular in some parts of the country.

Life expectancy shortened

Scientific studies carried out for several years confirmed that smoking is the single most avoidable environmental factor in hypermorbidity and premature mortality, The studies revealed that life expectancy is significantly shortened for smokers at any age A 30 to 35 year, two-pack-a-day smoker has a life expectancy that is about eight years shorter than that of a non-smoker of the same age. Bidi smokers between 40 and 58 years of age have twice/double the risk of dying between these ages compared to non-smokers

Cigarette smokers are prone to lung cancer-the effect depends on the number of cigarettes smoked, duration of inhalation. A 60-year old man, who has smoked 10-cigarettes a day since the age of 20 will have eight times the risk of a man of the same age of 40 even though the total consumption of cigarettes is the same in both cases. Besides how long one smokes is a very important factor Oral, pharyngeal and esophageal cancers are generally the results of cigarette smoking. The risq of heart attack is also found high in inveterate smokers than non-smokers Usually, after smoking a cigarette, the pulse beat increases by several beats perminute for about half an hour. In heavy smokers these beats far exceed the normal in a year. Smoking does not induce chronic hypertension but in the presence of hypertension, it acts as risk factor for coronary heart disease. Comparatively risk of lung cancer, oral cavity cancers, pharyn, laryn, esophagus as well as heart attacks are high in bidi smokers In case of pipe and cigar smokers the risk of lung cancer is less but risk of cancer of the mouth, laryn and esophagus is similar to that of cigarettes. This is because pipe and cigar smokers do not normally inhale and therefore their lungs are less exposed to the baneful constitutents of smoke. When compared to cigarette smokers these people are at a lower risk to lung cancer but it must be emphasised that they are at higher risk compared to those who never smoke. Nevertheless, for parts like the oral cavity, laryn and esophagus which are

exposed, the hazard is similar to that of cigarette smokers

Startling facts

Observation of interaction between smoking and certain industrial exposures revealed some starling and freightening facts In smokers working in asbestos mines and related industries risk factor of lung cancer is higher than non-smokers in the same industries Epidemiologic studies have shown that compared to the predominant offect of smoking, the effect of air polluation on the development of lung cancer is small. However, a combined (synergistic) effect of the two is always possible

Addictions generally vitiate social and family life and health of the individual Japanese scientists have found that besides other effects, women whose husbands smoked more than a pack a day have almost three times the risk of lung cancer compared to those whose husbands do not smoke

In case of women smokers the health hazard is greater because of their nature, built and living conditions When women smokers are on oral contraceptives, the experience an elevated risk of heart attacks Babies born to women who smoke during pregnancy are on an average 200 gms lighter than those born to women of comparable age who do not smoke Often these babies are premature compared to babies of non-smokers, here the lower birth weight is not due to a reduced gestation period but due to retardation of fetal growth The more the mother smokes, the greater the baby's weight reduction. Moreover, there is a direct relationship between nicotine in breast milk and maternal smoking and experiments on animals indicated decrease in milk production after nicotine administration.

Regular bidis (about 6 mm long) yield more than 23 mg tar and more than 1.7 mg nicotine and long bidis (75-80 mm) more than 38 mg of tar and over 2 mg nicotine. In western countries ventilated high porosity paper with filters is used in cigarette making, as a result these cigarettes have substantially reduced tar and nicotine. But in cigarettes manufactured in India tar and nicotine levels are high Filter kings (85 mm) yield more tar than non-filter cigarettes (75 mm) due to their longer size Despite the same length of non-filters not all brands of filter-tips deliver lower levels of tar and nicotine Tar and nicotine yields depend on the quality of tobacco and as well as on the filter efficiency Indian filters are not as efficient as western ones mainly due to the shorter length of the filters (10 mm as compared to 20 mm in the U S) In some countries only less than 15 mg of tar and 1 mg of nicotine are permitted. But there is no such legislation in India and manufacturers try to benefit maximum with little attention to these aspects

By and large smoking is a major health hazard-to what extent non-smoking days help to control it needs a deeper thought. There are many no-smoking day observers who puff off double their daily quota the next day. Who do they kid ? Just cheating themselves and spoiling their health

We find the statutory warning only on the cigarette pakcs, not on bidis Even if it is printed it will meet the same fate On the basis of preliminary analysis bidis are proved to be more dangerous-but no attempt is made to discourage bidi smoking On the other hand we find attractive advertisements of bidis in rural areas

Campaign against smoking

It is high time people tried to create a non-smoking culture and non-smoking generation There are aggressive campaigns and advertisements of cigarettes with fashionable image but no proper and powerfull. propaganda about the hazards of smoking. Complete banning of advertisements may not be legally possible but propagating the advantages of not smoking will certainaly have some impact and help to promote a non-smoking culture Further, all possible steps to curtail attractive advertisements are imperative Smokers should be educated about the harmful effects of this bad habit. Twenty years after stopping smoking, the lung cancer risk to ex-smoker is only 10 percent that of a current-smoker of the same age who continues to smoke at the same daily level

Many smokers fail to give up smoking and some find it as a difficult task However, if they follow right methods with right spirit is not at all impossible As in the case of those addicted to alchohol, only some smokers have a compulsive need because they are addicted to nicotine, they would suffer severe withdrawl symptoms if they even cut back on their smoking Such persons may fail more often in their attempts to give up smoking than others not addicted, but they could keep trying

On doctor's advice several confirmed smokers have given up or reduced the habit after suffering heart attacks If smokers shift to chewing gum with 2 mg nicotine they can gradually cease smoking, specially those smokers who have developed nicotine dependency A smokers, group taking nicotine had less withdrawal symptoms than a comparable group which had not, and most were able to stop even the chewing gum within six months.

Research studies have revealed that inveterate smokers who want to totally abstain from smoking feel remarkable decrease in craving over a seven day period. On the other hand partical abstainers have a high level of craving ultimately bringing the situation back to square one. Nonetheless, the severity of withdrawal symptoms are almost the same in both the groups. Giving up smoking is very difficult to people who develop nicotine dependency It has been observed that women smokers who think that they can give up smoking during pregnancy to avoid the risk to the baby found hard to do so. Besides, it is found that generally women feel it difficult to desist than men once addicted. If one realises and think

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BOOK REVIEW

Regional Development

Perspectives in Regional Problems and Regional Development in Nepal by D.B. Amatya, Sterling Publishers Private Limited, New Delhi, 1987, Pages 94, Rs.100

This little book goes to inform the regional development problem faced in Nepal and the efforts made by the Government to reduce regional disparities between its development districts. Through qantitative measurements, the author goes to show the inequalities between districts, sectors and over time. In doing so, he applies the well known J.G. Williamson's formula of VW = Index of Regional Inequality. The author also takes a critical view of the various regional development models followed in Nepal with the reference period 1956-1986.

Nepal is a mountainous country with a total population 15 million spread over 147181 sq. km. It has 18 mountain districts, 37 hill districts and 20 terai districts. These 75 districts are distributed over four development regions viz. (1) Eastern Development Region EDR (2) Central Development Region CDR (3) Western Development Region WDR and (4) Far West Development Region FWDR.

Applying Williamson's formula, the author states that regional inequality in Nepal has increased from VW = 0.062 in 1970-71 to VW = 0.207 in 1982-83. There is noticed substantial regional inequality in industrial employment. Most of the industrial units, 75 per cent of the total, are in the Eastern and Central terai areas of Nepal. Out of the 75 districts in Nepal, 30 districts (hills) have no industrial establishments in the recent past. These industrial units are mostly of import substitution type. Since the industrial plants are located because of nearness to the border (with India), raw material sources and market-oriented, the spatial structure in Nepal appears to be lop sided. Also, there are regional inequalities of varying degrees in edcation, transport, health and power sectors. Inequality was most marked in the education sector and lowest in transport sector.

Nepal adopted the 'growth pole' theory in 1975 as a model for regional development in its Five Year Plans. However, the author observes that 'the regional imbalances may be expected to rise instead of declining due to concentration of investment in advanced regions'. There are ways and means of transfers of welfare from one region to the other, including fiscal measures. Hence, the author's argument is not tenable.

As shown in the latter chapters in the book, the 'growth axes' and 'development centres' have been identified and designated in each of the Eastern, Central, Western and Metropolitan regions, no serious attempt has been made to develop a hierarchy of settlements with functional linkages, and what is more important, the required infrastructure to 'fill in gaps' in development, The author rather in frustration resigns to the situation and advises to abondon the regional planning attempts. His prescription to leave the industrial efforts entirely to the decisions of private entrepreneurs is of dubious value and rather made hurriedly to close the chapter. Privatisation yes, but it has to be on a planned way and has to be in the context of both economic and physical development plans. However, in view of very scant literature on the economy of Nepal, author's work is encouraging.

S.M. Shah

Pricing Policies and Price Control in Developing Countries, by K.D. Saxena; First published in Great Britain in 1986 by Francis Printer (publisher) Limited, 25 Floral Street London WCZE 9 DS; Pages 239; price in India Rs. 195.

Pricing

Price control is an instrument of economic policy for correcting distortions in the relative price structure, resource allocation and income distribution caused by market imperfection in developing economies.

In developing economies, the real problem is not that of maximum efficiency or welfare under given conditions, but of growth and equity or social justice, which necessiate an active interference in the free play of market forces and a large scale mobilisation and allocation of resources according to a pre-determined plan for the achievement of certain economic and non-economic objectives, determined by a country on the basis of certain value judgements. The objective of pricing policy can broadly be categorised under heading 'Efficiency, Welfare, Full employment, Equity, Growth and Stability. Price control, as a tool of pricing policy implementation, may take various forms, such as the setting of a ceiling price, or the freezing of the market price at a level obtaining on a particular date; or imposing a ceiling on the profit margin at the production, sale or distribution stage; or fixing a 'minimum,' 'floor' or 'support' price; or setting a 'retention price' on the basis of 'standard' or approved cost norms.

Author has very candidly described the theoretical framework of pricing policies formulation in developing economies. Book under review is divided into eleven chapters, each discussing different aspects of pricing policies and price control. Objectives, nature and problems of price-control in developing economies have been dealt precisely in the first few chapters.

This is followed by a review of the Indian experience of price control in some agricultural products. One chapter exclusively deals with pricing policies of the public sector in India and its implication on performance and growth of this sector. In the final chapter author draws together important conclusions and makes valuable suggestions pertaining to formulation of pricing policies in India.

According to the author, the available empirical evidence regarding the relative performance of certain price controlled and non-price controlled industries in India seems to suggest, broadly, that the controlled prices have moved more or less in line with the general price level; growth in capacity, production and capacity utilisation has, on the whole, not been slower in the controlled as campared to the non-controlled industries; and profitability and internal resource generation in the controlled sector have also not been lower than the non controlled sector. These statistical data donot substantiate the view that price controls keep the price of controlled commodities unduly depressed, thereby adversely affecting the profitability and growth of the price controlled industries.

The Indian experience also highlights the need to simplify the system of statutory price controls; build up an efficient monitoring system; abolish the multiplicity of price-fixing bodies; build up a powerful consumers movement; and create voluntary organisation at the grassroots level to ensure proper functioning of the public distribution system, make the entire system of price controls, productivity and efficiency oriented; adopted a canscious policy to minimise the burden of subsidies and to taper them off over time; and decentralise the administration of the legal provisions relating to unfair trade practices by suitable legislation or amendment. Views and arguments offered by the author have been supported by facts and figures at several occasions.

The book would prove to be intersting and useful reading to students of Indian economics and men who matter in formulation of pricing policies in India.

Tushar Kant Mishra

Business Management

Problem Recognition in Public Policy and Business Management: Edited by Prof. V. Subramaniam. Published by Ashish Publishing House, 8/81, Punjabi Bagh, New Delhi 110 026. First published: 1986. Pages 211. Price Rs. 150.00.

This book contains papers presented at a conference on problem recognition and the setting of a public policy agenda held at Carleton University, Ottawar in 1983. There are a couple of papers which have been included, though not presented at this conference. The editor of this book is a professor of political science in Carleton University. All the papers have been contributed by foreigners except for the editor who alone is an Indian who has his contribution in this book

The editor has noted that problem recognition has received much less attention than what it really deserved. In fact, it was only after the work of Herbert A. Simon and a few others that the subject received some academic attention. However, the next steps in decision-making viz., search for and design of alternatives got more concentrated attention by theorists who applied an array of tools of applied mathematics in them. Subramaniam, the editor, says that while the contribution of psychology in problem recognition is piecemeal and non-cumulative, the Marxist contribution is indirect, deriving from interest in explaining the survival of the capitalist State.

It would have been more useful if the editor had summarised what others have presented in their papers. In any case, almost all observations are in a very general way, academic in style and a bit haphazardly written. The price of the book is too much on the high side. The contents do not justify such a price at all.

Navin Chandra Joshi

R. Venkataraman

President R. Venkataraman by N.G. Chaudhry; Published by Manas Publications, Delhi; 1987; Rs. 120/-; Pages vi+148.

Shankara Deo has rightfully pointed out that the 'President represents the dignity of the State'. To be elected as the President of India is the highest honour any Indian can hope for. The President of India symbolises the hopes and aspirations of the citizens of the country where he is the supreme in whose name the country is governed.

The author, Shri N.G. Chaudhry, a prolific writer, has contributed various articles on diversified subjects ranging from Art to Economics in various newspapers and periodicals both at home and abroad. The author in his biographical attempt of Shri R. Venkataraman has tried to be quite objective The book which contains a few photographs is divided into six chapters and three appendices, the former presenting the life trajectory of Shri R. Venkataraman and the latter containing his speeches made on important occasions. The book begins with a good coverage along with meticulous details of the historic moment i.e. the taking over ceremony of Shri Venkataraman, the eighth President of democratic Republic of India. He was elected when the need of the hour was stability and solidarity for the nation which was fast disintegrating because of warring politicians and political parties which resulted in erosion of confidence.

The book clearly highlights the qualities required to rise steadily to the top. It one tries to understand the reasons for Shri Venkataraman's outstanding success in various spheres of life, the first thing which strikes one is his utter simplicity and sincerity of purpose.

A man of great intellectual acumen he is at the same time fundamentally a modest and humble man. His gentleness combined with his intellectual powers has

made him an ideal negotiater. Since his initiation into politics almost five decades back, the President has increasingly identified himself with the hopes and fears, the struggles and aspirations of the masses. A true Gandhian, Shri Venkataraman has shown tact, skill and competence in whatever post he has hold. Through out his political career, he has presented himself with utmost dignity. Shri Chaudhry's book factual and unemotional but its under statement itself helps to bring out more clearly,the personality of our President.

The author has spent a lot of time in describing in detail the reactions of various dignitaries, newspapers and journals and the innumerable congratulations and feliciations received on Venkataraman's election as the President. The author has given a good sum up of the nation wide survey conducted by Operation Research Group of the Hindustan Times The chapter on 'Prelude to Presidentiship' describes the three-year period wherein Shri Venkataraman discharged his duties efficiently as the Vice President in addition to performing his duties as Chairman of the Rajya Sabha. The speeches made by Shri Venkataraman during important events have been given in detail. These indirectly reflect on his personality though it is felt that only brief but relevant extracts should have been given. The chapter on the profile' of Venkataraman gives a summing up of his personal life, though many more details could have been given. The impact of Mahatama Gandhi on his life could have been better brought out. The chapter on 'Personality' reveals the views of the President on leading personalities including inter-alia R.N. Tagore, Indira Gandhi, JRD Tata, Dr. Zakir Hussain etc.

Thus writing on Shri Ramaswamy Venkataraman-an able parliamentarian, a patient listener and a conversationalist with a sense of humour and above all a humanist-would have been a matter of pleasure for the author. The book is a welcome addition to the biographical library of the national leaders of India. Although it is premature to expect a high level of excellence but one can safely say that the achievement in full of promise and standards of accuracy and details are developing fast.

Urvashi Sadhwani

JAINA SHRINES IN INDIA: by O.P. Tandon, Pages-36, Price Rs. 18-00, Published by Publications Division, Patiala House, New Delhi 110001

In every religion, the abstract concept of Supreme Being menifests itself in some concrete form, Temples, shrines and idols are such menifestations. These shrines are not religious places only but also present a blend of culture, art and architecture.

From times immemorial we have been tolerant and liberal people. The tributaries of various religions and social beliefs have enriched the flow of composite Indian culture. The contribution of Jainism is very vital in this regard. Jain values and myths have enriched our philosophical, cultural and social heritage.

This book presents a bird-eye view of Jaina shrines in India. In a very short volume, it encompasses the entire country systemetically and nicely. Religious and philosophical background, history, culture, architecture and art have been beautifully blended. All these aspects go hand in hand.

First chapter of the book apprises one of basic principles of Jaina philosophy and architecture. Then general idea of Jaina shrines has been presented. For systemetic study, whole country has been divided in zones— East, West, Deccan and South, North and Central India. List of Jain Tirthankars has also been added. A good number of photographs add to the value of the book. There are a number of sketches which will be very useful for general architectural understanding of Jaina shrines. Noteable omission among photographs are superb *Dilwara Temples* (especially the interiors of these temples) of Mount Abu.

Brevity is the soul of wit. As such, this short volume provides a sufficient and meaningful reading. There is nothing superfluous in it. Price is reasonable. Printing and layout is good.

Rajendra Bhatt

Rural Development

Planning For Integrated Rural Development; Authored by M/s. B.P. Maithani and others; Published by National Institute of Rural Development, Hyderabad. pp 225; Price not mentioned.

The volume under review contains a report on a comprehensive study of the integrated rural development plan for Yelburga block in Raichur district of Karnataka. As the new 20-point programme envisages a comprehensive apporoach to rural transformation incorporating economic, social and envirnomental dimensions of development planning, the study in question was sponsored by the Deptt. of Rural Development and Co-operation, Government of Karnataka and entrusted to the National Institute of Rural Development, Hyderabad who had expertise to deal with the issues involved.

The volume is highly significant not only in regard to its substantial contents but also for the manner in which the larger perspective of the study has been skillfully presented. No less than ten chapters deal with the various aspects of rural planning in all its ramifications, followed by a summary as well as appendices covering quite a significant amount of statistical information on important topics.

In a developing country like India, about eighty percent population being entirely rural, the development strategies have to cover the entire rural society so that the agricultural and allied activities are so systematised as to provide the basic infrastructure to achieve the goals of industries, services and business. Planning for social facilities also comes into the picture as the rural society has to maintain itself on a wholesome

footing. When the strategies have been decided, organization of resources and management for implementation go a long way in the integrated development of the rural environment. All these aspects have been thoroughly dealt with in this study which will be definitely useful to development planners and administrators at the field level. The exposition is not only highly readable but is also littered with tabular data and information, here and there, to equip the narrative with attributes of a meaningful presentation.

R.P. Rahi

Vithalbhai Patel

Vithalbhai Patel by H.M. Patel: Published by Publications Division. Pages 179; Price Rs. 15.00

Shri H.M Patel quite refreshingly elaborated the life of Vithalbhai Patel in a series 'Builders of Modern India' undertaken by the Publications Division. He was a maker of modern India in a sense as his contribution during freedom struggle of India was significant and distinctive. He was an ardent nationalist and had just one aim in life-the freedom of his country from the foreign rule. But, he had never been in accord with Gandhiji in regard to political tactics and strategies adotped to win freedom. To him, such items in Gandhiji's programme as surrender of titles; refusal to attend government durbars; withdrawal of children from schools and colleges etc. were of no great significane. He was of the opinion that withdrawal of candidates from election to legislature would not help but suggested contesting of election, winning a majority of the seats and making it difficult for the government to function. In this way his thinking was closely similar to that of Lokmanya Tilak.

Vithalbhai Patel's active working life was relatively short; he was elected to the Bombay Legislative Council in 1912 and died in 1933 leaving a history to remember. V.P. was an able Parliamentarian. His grasp of parliamentary procedures, rules and conventions was quite astronishing. His speeches were always balanced, cogently argued and couched in dignified lauguage. VP won the Presidential (Now-a-days Speaker) contest to the Indian Legislative Assembly in Delhi against the candidate backed by the government. But once he was elected President, he made it clear that he now ceased to belong to any party and would do his best to guide all deliberations impartially. VP proved that Indians were capable of presiding over a House in which wide difference, outlook and opinion existed. Mr. Muddiman at the time of adjournment of the second assembly beside others in praise of VP said, "I very respectfully lay my bunch of roses on your desk in addition to the other bouquets that have fallen to your lot. Indeed, I think the constitutional historians will refer to the Presidentship of Vithalbhai as a landmark in the history of this Assembly."

What made the VP a sad man was that his sterling worth was not appreciated fully by Gandhiji and the Congress Organization. After reading this biography the misapprehensions about the role played by VP in the pre-independence period will vanish and would be recognised as an ardent nationalist in the true sense.

Vimal Suneja

(Contd from page 16)

provided proper training, appropriate technology, finances, markets, consultancy, raw material outlets and other necessary infrastructures, so as to act as the prime movers for the final success and viability of the real projects

Conclusion

To conclude, economic development and technological change in order to make a dent in the vicious circle of poverty, will require adequate investment for preparing the grounds for achieving the "take-off" stage Proper planning in technology and long-drawn trials of the pilot projects are a must before these are actually replicated by the beneficiaries Viable rates of profit and return on the investment in technology will promote the income and general welfare of the poor people This will also enable them to break the shackles of the vicious poverty trap Thus, we can see that in order to achieve prosperity through the effective use of economic development and pilot projects proper planning and capital accumulation of the economic and non-economic factors is a must, till these are viably adopted by the beneficiaries □□□

(Contd. from page 30)

seriously about the hidden dangers of smoking one will certainly keep off altogether from cigarettes From the government side there should be strict legislation regarding the upper limits for tar and nicotine, besides intense and sustained efforts to create the right awareness about smoking– the slow and soft killing habit.

As in many places here also we have sceptics who think that smoking control programmes and compaigns hardly succeed But if they look at the successful results of smoking control programmes in western countries which have brought down the habit remarkably-they will certainly accept the reality In Canada in ten years (from 1965-74) the proporiton of men smokers over 20 years of age came down from 61 per cent to 51 per cent. But the habit is found to be increasing in teenagers, specially girls in these countries, and many control programmes and plans are being directed towards them.

Like taking drugs, chewing pan, smoking is also a patently acquired habit, rather addiction– No smoker had a pleasurable experience when he tasted the first cigarette. Ask any smoker you will get the stock reply that he has started because of friends' pressure or for company or just to 'enjoy' Many have initiated smoking unknowingly the adverse effects in life but curbing or in some cases checking it completely is not an insuperable problem at all. □□□

Technology mission on dairy development

The Government has decided to establish a Technology Mission on Dairy Development.

The major objective of the Mission would be to consolidate the achievements of the cooperative dairy sector using the infrastructure already established under Operation Flood taking the milk production to 610 lakh tonnes by 1995 from the level of 440 lakh tonnes in 1986-87. With this, the per capita availability of milk would go up from 158 gms/day in 1986-87 to 186 gms/day in 1995.

Through the Technology Mission the programmes of Operation Flood will be dovetailed with the State Government's programmes on animal husbandry and dairying, poverty alleviation programmes like the IRDP, and so on. The mission would aim at extending the dairy cooperative structure to 270 districts by 1995 and improving average annual yield of milk per animal within the project area.

In line with the National Breeding Policy, the Technology Mission would emphasise on improving milk production through upgrading of non-descript Indian buffaloes and selective breeding of important breeds of cow and buffaloes; cross breeding of non-descript cattle with exotic breeds; development of acceptable system of culling of inefficient animals; and adoption of improved technologies like frozen semen, embryo transplant, genetic engineering etc. for gaining quicker results.

This information was given by the Minister of State for Agriculture Shri Shyam Lal Yadav in Rajya Sabha recently.

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Power from Narora

The first unit of the Narora Atomic Power Project achieved criticality at 10.40.45 hours on March 12, 1989. NAPP consists of two Pressurised heavy water reactors of 235 MWe capacity each using natural uranium as fuel and heavy water as moderator and coolant. The plant is located on the banks of river Ganga, downstream of Narora barrage in Uttar Pradesh. The cost of the two unit station is Rs. 532 crore.

The Plant design incorporates several improvements over the previous designs of Rajasthan and Madras stations. This is a major effort towards evolving a standardised design for 235 MWe reactors and is a stepping stone towards the design of 500 MWe reactors of the same family. The design and construction of the station follow internationally applicable codes, standards and practices. The moderate seismicity of the site has been adequately taken into account in evolving the design. The safety systems will be fully functional to enable safe shut down of the reactor in the event of an earthquake. There is no danger of pollution of Ganga waters due to operation of the reactors. An environmental Survey laboratory is operational at the site to detect the smallest increase in radioactivity in the environment.

An exclusion zone of 1.6 km radius around the plant is provided where no public habitation is permitted. Engineered safety features are built into the station so that during normal operation as well as during a severe design basis accident, the radiation dose at the exclusion zone boundary will be within permissible limits as per internationally accepted values. As a matter of abundant caution an emergency plan has also been worked out for an accident beyond the design basis.

Various experiments will now be conducted at Unit-I at low power for a period of two months and generation of power will commence thereafter. Commercial Operation at full power of the first 235 MWe reactor is expected in five or six months time. The power produced will be shared by the member states of the Northern Electricity Region.

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AGRICULTURE

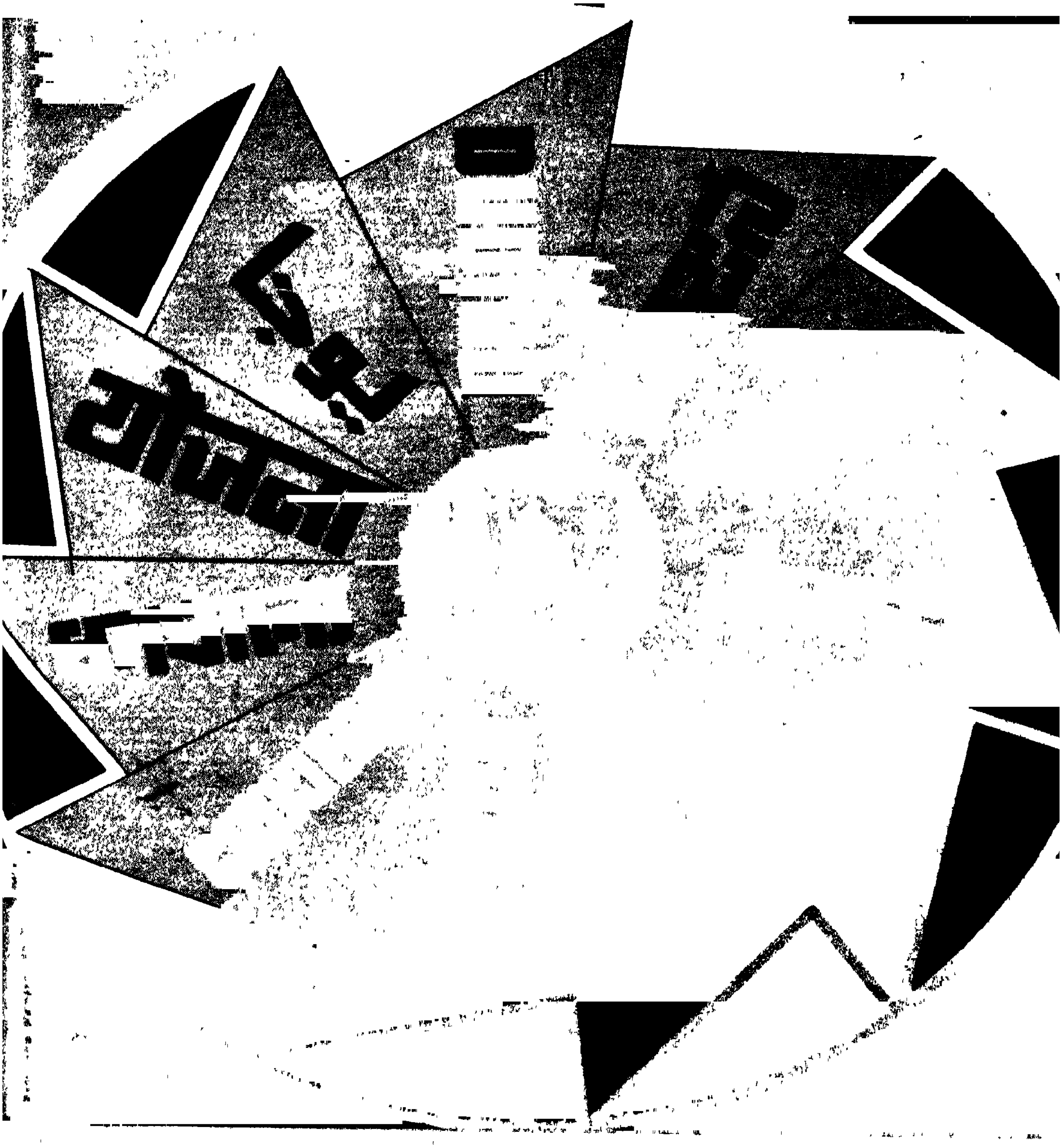
yojana

Special issue:
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Supercomputer for weather forecasting

India's first supercomputer Cray X-MP-14 was dedicated to the nation by the Prime Minister, Shri Rajiv Gandhi, in New Delhi recently. The U.S. made supercomputer will be a key facility at the National Centre for Medium Range Weather Forecasting (NCMRWF). The centre will function with close linkages with India Meteorological Department and a number of other agencies in the country. Medium range weather forecasting coupled with agro-meteorology programmes can provide immense benefits to the country in terms of optimisation of agricultural operations and water resources management.

The main objectives of the project are: setting up of major infrastructural facilities like supercomputer, front-end processors, communication network and the on-line linkages withk IMD, important research and agromet centres; development of global and regional circulation numerical models, taking advantage of the present developmental efforts in the country and abroad, for medium range weather forecasting; preparation of medium range weather forecasts— 3 to 10 days in advance, development, preparation and dissemination of agromet operational advisories; promote and undertake studies on crop-weather relationships and impact of weather and climate on pests and diseases; and development of suitable agromet models.

(Contd on cover III)

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Challenges ahead of Indian agriculture

Moin Qazi

Outlining the quantum jump made in the production of food grains since Independence, the author points out that the increase in agriculture production in the eighties is mainly due to productivity improvements rather than increase in the area under cultivation. Perhaps keeping this in mind, the government has fixed an ambitious foodgrain production target. To meet this challenging task the author points out that the government has to introduce more practical models of irrigation rather than trying to implement text book models.

SEVERE DROUGHT CONDITIONS IN MAJOR parts of the country had upset the estimated targets for agricultural production for 1987-88. However, the country has been spared this agony during the current year and the agricultural production for 1988-89 is expected to increase from 138 million tonnes in 1987-88 to 166 million tonnes, an increase of about 30 million tonnes which will be worth about Rs. 7,000 crores.

In the drought year of 1987-88, production of foodgrains fell between 6 million and 15 million tonnes. The overall growth rate fell by about 2% Taking into account the uncertainty of monsoon and the fluctuating trends in agricultural production, it would be wise to analyse various factors in the agricultural cycle so that a proper strategy could be formulated for improving the production of foodgrains.

Growth strategies

Indian agriculture has made significant growth since the gloomy days of the early fifties. From a begging bowl, we have become philanthrophers and have been able to export foodgrains to a number of countries. There was a time when the Paddock brothers had prophesied that "India will meet its ruins and its people will go hungry by 1975." The Green Revolution launched in 1967-68 under the guidance of Dr. Norman Borlaug enabled India to meet the growing needs of the population. Apart from becoming self-sufficient, India had become a potential exporter. The year 1983-84 achieved a record production of 152.4 million tonnes. Unlike the period of 1967-68 when the boost in agricultural production was mainly due to use of improved varieties of seeds and was restricted to a few progressive areas of Punjab, Haryana and West U.P the boon in 1983-84 was primarily due to better management of inputs and was witnessed even in Eastern and Central States including West Bengal Bihar, Orissa, Madhya Pradesh and Uttar Pradesh where the growth rates had been relatively slow.

Despite the doubling of the population from 359 million in 1950-51 to 754 million in 1985-86, the country has achieved self-sufficiency in foodgrains. The significance of buffer stock of 23 million tonnes of foodgrains was not realised till the drought of 1987-88, because we had become used to surpluses despite drought and flood. The irrigated area has gone up from 22 6 million hectares to 57.8 million hectares. The use of fertilisers also increased from 56,000 tonnes phosphate to nearly 6 million tonnes phosphates. Before we became self-sufficient in foodgrains, our foodgrains imports averaged three million tonnes a year. And it took a major share of the precious foreign exchange-Rs. 1150 million in 1950.

The year 1988 marks the 20th anniversary of the coining of the term, "Green Revolution" by Dr William Gadd of the U.S. Department of Agriculture. In 1968, Indian farmers produced about 16.6 million tonnes of wheat. The highest production earlier was about 12.3 million tonnes in 1965. This quantum jump in wheat production as well as the promise of a similar leap in rice opened up by the semi-dwarf rice

varieties prompted Dr. Gadd to say that what is happening is a revolution in farmers' fields in the tropics and sub-tropics.

Wheat production in the country has now reached 47 million tonnes. The average yield which was 850 kg per hectare in 1960 is now 2,046 kg. Punjab alone now produces over 11 million tonnes of wheat, which nearly equals the production of the entire country in 1964-65. The average yield of wheat in Punjab now is over 3.5 tonnes per hectare. The average yield of rice grown often in the same field during the kharif season is nearly 3 2 tonnes per hectare Thus, the average yield from a rice-wheat rotation in a year is about 6.7 tonnes per hectare-which is one of the highest in the world. Punjab has also made spectacular progress in many other areas of agricultural production like potato, cotton, kerosene, milk and tree crops.

While the set-back in the agricultural sector in 1987-88 can be largely attributed to aberrant weather conditions, the Planning Commission is concerned over the evidence that the growth in irrigation, in areas under high-yielding varieties of seeds and in fertiliser consumption is short of the Plan targets. These trends now need to be reversed through determined efforts.

An important feature of agricultural growth in the eighties has been that it is almost entirely due to productivity improvements rather than increase in the area under cultivation Also, the growth in rice production has compensated for the slow-down in the growth in wheat production It is heartening that due to intensive efforts made under the Special Rice Production Programme, the share of the Eastern States in rice production increased from 53 per cent in 1984-85 to 56 per cent by 1985-86, with 88 per cent of the incremental production coming from this region In addition, Madhya Pradesh has crossed the rice productivity barrier of one tonne per hectare for the first time, following improvements in yield. There is also an improvement in the performance of other areas such as Bihar and U.P apart from the traditional high-wheat growth areas of Punjab, Haryana and Western U.P. This should lead to adoption of widespread growth strategies in the remaining years of the Seventh Plan.

However self sufficiency in cereals does not mean self-sufficiency in food. The per capita availability of pulses has been continuously declining. It fell from 61 gram. per day in 1951 to 36 grams per day in 1987. Whereas the per capita availability of edible oils has increased significantly, it is due mainly to enormously increased import levels. Despite this the per capita availability at 6.0 kg. per year is only half of what is nutritiously required.

The food availability in the country has increased from 40 million tonnes net in 1950 to 114.90 million tonnes net in 1987, but the per capita availability of foodgrains has increased only from 394.9 grams to 465.5 grams which is actually a decline from a high of 468 grams in 1961. During the same period, the availibility of pulses has fallen from 60.7 grams to 36.2 grams per day.

Decline in cultivable land

India would have had an increased production, but for increasing land degradation. Out of 329 million hectares of land mass as much as 175 million hectares are now considered degraded in one form or the other. What is even more alarming is the rate at which land degradation is taking place. Satellite imagery has indicated that we are losing forest cover at the rate of 1.3 million hectares a year. Further, because of bad agriculture and irrigation practices, bad road building in fragile hills, mining, wind and water erosion, water logging, urbanisation, etc. possibly another 1.0 million hectares a year is going out of productive use. In a country with 700 million population the per capita land has declined from 0.9 hectares in 1951 to 0.5 hectares in 1981. And cultivable land has declined from 0.48 hectares per capita in 1951 to 0.26 hectares in 1981. The pressure on land is enormous. Marginal lands are used for agriculture leading to further degradation. With a livestock population of over 400 million, grazing lands are over used to the extent that there is hardly any productivity left in them. With half the forest cover depleted there are acute shortage of fuelwood and fodder and of industrial wood. Illegal felling in reserved forests and illegal occupation of revenue community lands has become a widespread phenomena.

The country has 266 million hectares of land on which some growth is possible, of which 143 million hectares are under cultivation and 123 million hectares comprise forests, pastures and wasteland. According to Mr. B.B Vohra, a noted expert on land use, only 50 million hectares have assured access to irrigation.

Strategy for enhanced production

Atleast half of the 15 to 20 million hectares of land left fallow in India during the rainy season could be cropped, using the double farming system of the International Conservation Research Institute for the Semi Arid Tropics These systems are based on the use of 100-cm wide beds and 50-cm wide furrows, providing protection against erosion, and also with facilities for drainage. They could help us grow 10 million tonnes of foodgrains worth Rs. 5,000 crore, solving village hunger and unemployment.

It is in the light of these conditions that the Planning Commission has enunciated a multipronged strategy for stepping up food production. This includes (i) rise in the growth of rate of productivity raising inputs; (ii) modernisation of irrigation systems and improved water management; and (iii) acceleration and resilience of growth in rainfed/dryland agriculture as also in crops like paddy, oilseeds and pulses.

The Planning Commission has pointed out that

expansion of area will account for a much lower proportion of the targetted agricultural growth as compared to the original Seventh Plan. Investments and policies will, therefore, be required for raising yields faster. The irrigation target has been kept as in the Seventh Plan, but growth of area under crops is expected to be lower on account of a lower assumption on cropping intensity based on recent trends. Yield will, therefore, now have to rise by 3.19 per annum as compared to 2.90 per cent in the original Seventh Plan so that the agricultural growth rate target of 4 per cent can be achieved.

If the Seventh Plan target is to be realised, the gap between irrigation potential and utilisation will have to be narrowed and irrigation development will have to increase at an annual rate of 2.44 million hectares during the remaining years of the Plan period. Banks will, therefore, have to step up financing support for minor irrigation Expected improvements in irrigation and dryland agriculture will need to be supported by the anticipated annual growth rate of 8 77 per cent in fertiliser consumption during the remaining years of the Plan Increasing use of pesticides including biotechnology methods, improvement in distribution of quality seeds, soil and water conservation measures and better implementation of extension projects are all essential for supporting higher levels of production and productivity in agriculture.

Against this background, the Government has initiated several thrust programmes for agriculture. In order to give a completely new orientation to agricultural planning, the country has been divided into 15 agro climatic zones. The soil and climatic conditions in these zones will determine the cropping pattern, designing of the irrigation systems, varieties of seeds and other related matters In addition, under the Special Foodgrains Production Programme, based on an analysis of soil conditions, water availability, existing technology packages at the regional level and past performance in agriculture and foodgrains production, 169 districts in 14 States have been identified as having an immediately realisable potential for higher foodgrains production, covering rice, wheat, maize, arhar and gram.

Though fertiliser consumption is expected to pick up following improvements in irrigation and dryland agriculture strategies, some additional measures have been initiated. These include introduction of small packs of fertilisers of 25 kgs. in all the States, opening of 100 additional retail outlets in every district for distribution of fertilisers and discount by fertiliser companies to the extent of 7 5 per cent over notified prices during 1988-89. Under the National Watershed Development Programme for rainfed agriculture, "watershed" has been taken as the basis to conserve and upgrade both crop lands and wasts lands to stabilise and increase crop production from rainfed farming.

The urgency of increasing growth rates in agriculture has been highlighted by a study made by the International Food Policy Research Institute, Washington, whose projections indicate that by 1990, India will have a deficit production of major staples, i.e. a 17.8 million-tonne deficit with low income growth and a 21.9 million-tonne deficit with high income growth, accounting for about 10-12 per cent of consumption. In order to meet the challenge, the Government has fixed an ambitious foodgrains production target of 166 million tonnes for 1988-89 and all-out efforts are being made to increase foodgrains production in the country.

Poor irrigation facilities

It would not be out of place to mention the failure of the big irrigation systems to deliver the expected results According to official information, Rs. 6,593 crores has been spent in the first three years of the Seventh Plan to create a gross potential of not more than 1.5 million hectares. This represents an investment of around Rs. 44,000 per hectare, not including the investments which will be necessary for command area development programmes and drainage works to prevent waterlogging.

According to Mr B.B. Vohra, the noted environmentalist the final cost of irrigating one hectare properly will be not less than Rs. 60,000 on an average. This is extraordinarily high for irrigation through the major and medium route. He points out that instead of creating additional potential efforts need to be made for optimising the existing potential. However, the Seventh Plan has an allocation of Rs. 11,556 crores for creation of additional potential through big irrigation projects and only a paltry Rs. 1,671 crores has been provided for command area development programmes, even though the gap between the "potential created" and the "potential utilised" was as big as 5.2 mh., at the end of the Sixth Plan. There is no separate provision at all for drainage, an essential service although, in "the world as a whole, as much land goes out of production owing to waterlogging and salinisation every year as is brought under production through new projects.

The solution to the problem of poor irrigation facilities lies not in building massive irrigation projects which not only involve huge investments but also displace human and animal population, lead to denudation of land, and sometimes rich fertile soil and as has been found, suffer shrinkage in capacity by siltation etc Instead efforts need to made to prevent the run off of soils, denudation of vegetation etc.

The lopsidedness of the present policies is reflected by the fact that while Rs 15,286 crores was spent on big projects from 1951 to 1985, to irrigate a net 15 mh. or so, the total investment during the same period on forestry and soil and water conservation programmes was only Rs. 2,723 crores. "This approach", feels Mr. Vohra "which will lead to certain disaster, should be given up before it is too late".

It is time our planners react to the realities of the situation and introduce more practical models of irrigation rather than trying to implement text book models. □□□

Strategy for enhancing wheat production

Dr. S.S. Khanna & Dr. M.P. Gupta

Though India has made rapid progress in wheat production during the past two decades, the fast growing population of the country necessitates still higher growth rate to meet the increasing demand. Keeping this requirement in mind the authors here analyse in detail the strategy for enhancing wheat production in the years to come. The factors affecting wheat production are spelt out alongwith the possible remedial measures to ensure better growth rate.

WHEAT IS THE MOST IMPORTANT RABI CROP IN the country It occupies 50 per cent of the area under rabi foodgrain crops and contributes 70 to 72 per cent of total foodgrain production in the rabi season. An area of about 23 million hectares is covered under this crop out of which 12 million hectares are under dependable irrigation, 6 million hectares under limited irrigation and 5 million hectares under rainfed conditions. Its overall contribution to total foodgrains is little over 30 per cent or about 45 million tonnes.

The productivity of wheat in 1986-87 was 19,98 kgs per hectare in India, whereas it was 4718 kgs in Egypt, 2531 kgs in U.S.A., 3033 kgs in China, 3188 kgs in Japan, 1559 kgs in Pakistan, 5560 kgs in France and 1860 kgs in USSR

India has made rapid progress in wheat production during the past two decades, which has enabled the country to be self-sufficient in food grains. Wheat production has increased by nearly 4 times from 12.26 million tonnes in 1964-65 to 46.89 million tonnes during 1985-86 The crop has gained further importance as its contribution to total food production in India has increased over the period from about 13 per cent to 30 per cent.

The rapidly growing population of the country which increased at an average rate of about 2 26 per cent over the period 1971-81 and is estimated to have crossed 766 million during 1986 has necessitated enhancing the growth rate of food production to meet the increasing demand Possibilities of increasing area under food crops are very limited and major gain has to be made through enhanced productivity Wheat has an important role to play in this direction as there is a very vast scope of increasing productivity of this crop by using available technologies.

Trends in area and production

In 1985-86, the first year of the Seventh Plan, the production of wheat increased to 47.05 million tonnes from the level of 44.07 million tonnes in 1984-85. The production at this level fell short of the target by two million tonnes In 1986-87, the production of 45.57 million tonnes was short of the target by 3.5 million tonnes The output of wheat in 1987-88 is again expected to be short of the target by about 7.0 million tonnes. Thus, for three successive years during the current plan, the wheat production has fallen short of the annual targets. For the year 1988-89 the wheat production is expected to be over 52 million tonnes and thus over 54 million tonnes in 1989-90 has been targetted which is a quantum jump of eight million tonnes in the first year and 10 million tonnes in those years over the production of 1987-88. It is possible that this growth can be achieved. In fact, the country has already achieved similar growth during the years 1978-79, 1980-81 and 1982-83. It is, however, to be noted that in the previous years of quantum jumps although productivity increase was the major contributor, the area expansion also made

substantial contribution. Of course, in the years ahead the production increase due to area expansion is going to be negligible. The increase in productivity would demand a favourable climate and a well planned approach for enabling the farmers to invest more money in the production system.

In this context, it has to be borne in mind that between 1967-68 and 1986-87, production of wheat recorded a growth rate of 5.4 per cent per annum This was contributed by 3 09 per cent growth in productivity and 2.31 per cent growth in croppped area. The highest growth rate in production recorded at 6.46 per cent during the period was achieved by Haryana followed by Uttar Pradesh 6.23 per cent, Rajasthan 5.7 per cent, Punjab 3.58 per cent, Bihar 4.95 per cent, Madhya Pradesh 3 69 per cent and Gujarat 3.09 per cent.

Among the food crops, wheat has recorded the highest compound growth rate of 5.64 per cent in production and 3.15 per cent in yield per hectare between 1967-68 to 1985-86. During this period area under wheat has gone up from 13.4 million hectares to above 23 million hectares and productivity has increased from 913 kg/ha to 2032 kg/ha. Area has also shown the highest growth which works out to 2.41 per cent. The figures of growth rate of total cereals in the country for the same period have been 2.97 per cent for production, 2.21 per cent for productivity and 0.31 per cent for area.

The maximum area under wheat is in Uttar Pradesh followed by Madhya Pradesh, Punjab, Bihar, Haryana and Rajasthan and the maximum production of wheat is in the state of Uttar Pradesh (36 50%), followed by Punjab (24.5%), Haryana (10 8%), Madhya Pradesh (9 6%), Rajasthan (6.5%) and Bihar (6 2%) The highest productivity of 3540 kg per ha. is obtained in Punjab followed by 2808 kg per ha in Haryana, 1974 kg. per ha. in Uttar Pradesh 1897 kg per ha in Rajasthan, 1801 kg. per ha in West Bengal and 1435 kg. per ha. in Bihar as compared to all India average yield of 1995 kg. per ha the State wise area, prouction and yield are given in Table -1

The high yields obtained in Punjab and Haryana are primarily due to successful cultivation of high-yielding, fertiliser-responsive-dwarf varieties of wheat coupled with judicious use of fertilisers and timely irrigation. The initiative and enterprise shown by the farmers in adopting improved wheat cultivation practices has also been a major contributing factor. The farmers have demonstrated that given the necessary technical know-how and the right type of inputs, very high yields of wheat can be obtained.

Quality of wheat

Wheat is ideally suited as a staple food for human consumption. Besides carbohydrates, it provides proteins, minerals and important vitamins. There is considerable variation in the proportions of these constituents among different varieties and species of

Table-1

Wheat : Area, Production and Yield

Area : '000 hectares
Production : '000 tonnes
Yield : Kgs. per hectare

State	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88
1	2	3	4	5	6	7	8
Bihar							
Area	1640	1733	1891	1876	1835	1840	1935
Production	2202	2426	2935	3032	2836	2853	2777
Yield	1343	1400	1552	1616	1600	1556	1076
Gujarat							
Area	704	647	741	637	431	315	192
Production	1407	1352	1627	1329	783	662	351
Yield	1999	2090	2196	2086	1817	2102	1435
Haryana							
Area	1562	1722	1784	1705	1699	1782	1731
Production	3682	4347	4458	4421	5257	5055	4861
Yield	2357	2524	2499	2593	3084	2237	2808
Himachal Pradesh							
Area	354	367	357	385	377	377	375
Production	430	435	288	270	492	492	351
Yield	1215	1185	807	699	1305	1305	937
Jammu & Kashmir							
Area	200	213	213	225	224	224	238
Production	204	226	179	163	272	272	212
Yield	1020	1061	840	747	1214	1214	889
Karnataka							
Area	334	334	319	330	249	307	262
Production	212	183	198	194	102	149	134
Yield	635	548	621	583	410	485	510
Madhya Pradesh							
Area	3306	3593	3780	3598	3705	3251	3549
Production	3313	3801	4374	3935	4202	3865	4329
Yield	1002	1058	1157	1094	1134	1189	1220
Maharashtra							
Area	1129	1023	1183	989	882	736	733
Production	989	803	1142	857	644	536	633
Yield	876	785	965	867	730	728	864
Punjab							
Area	2917	3047	3126	3095	3112	3189	3126
Production	8553	9157	9422	10176	10988	11150	11066
Yield	2932	3005	3015	3288	3531	3496	3540
Rajasthan							
Area	1768	2070	2159	1718	1677	1843	1534
Production	2933	3787	3442	2792	3721	3402	2910
Yield	1659	1829	1890	1869	2000	1934	1897
Uttar Pradesh							
Area	7772	8296	8528	8389	8281	8312	8340
Production	12749	15258	16121	15675	16559	16078	16463
Yield	1040	1839	1890	1869	2000	1934	1974
West Bengal							
Area	214	266	329	336	305	398	374
Production	389	606	854	812	739	683	674
Yield	1818	2278	2596	2417	2423	1716	1801
All-India							
Area	22144	23567	24672	23565	22897	22811	22604
Production	37452	42794	45476	44069	47052	45577	45095
Yield	1691	1816	1843	1870	2046	1996	1995

wheat. Variation is also caused by soil and climatic factors.

The chemical composition of typical Indian, Australian and American commercial wheats is given in Table-2.

Table 2

Chemical composition of Indian, Australian and American commercial wheats

Chemical constituents	Wheat samples Indian	Australian	American
Chemical constituents			
1 Moisture, per cent	8.87	9.22	8.88
2. Protein, per cent	10 70	10.07	11.38
3 Fat, per cent	2.21	2 04	2 18
4 Starch (by differences), per cent	71.91	72.64	70.98
5 Total sugar, per cent	3 02	2.52	2 48
6 Crude fibre, per cent	1.72	1.84	2 18
7 Ash (mineral matter), per cent	1.57	1.87	1.92
8 Calcium (mg/100g flour)	62.4	48.4	56.4
9 Phosphorous ,,	285 3	304.4	450 0
10 Iron ,,	4.4	4 0	4.1

The tall Indian wheat varieties, in general, have an average water content of 12.2 to 12.9 per cent; protein 8.9 to 11.9 per cent carbohydrates: 68.4 to 72.7 per cent fat: 1.2 to 2.1 per cent; fibre: 1.2 to 2.7 per cent; and ash: 1.5 to 2.4 per cent.

Trends in per capita availability

The availability of wheat as well as total foodgrains has shown improvement in recent years as a result of higher domestic production. Between 1971-85, net availability increased by 20.5 per cent for wheat while it declined by 1 18 per cent for foodgrains The spectacular increase in wheat availability is due to steep increase in wheat production. The per capita availability of wheat and foodgrains since 1971 is indicated in Table 3.

Table 3

Per capita net availability of Wheat and Foodgrains in India

Year	Wheat Kgs. per year	Wheat Grams per day	Foodgrains Kgs. per year	Foodgrains Grams per day
1971	37.8	103 6	171 1	468 8
1972	46 1	126 0	170 6	466 1
1973	43 1	118 1	153 9	421 6
1974	39 7	108 8	164 7	451 2
1975	40 9	112 1	148 0	405 5
1976	29.1	79 5	155 3	424 3
1977	41.8	114.5	156.8	429.6
1978	46.1	126.3	170 8	468 0
1979	48 3	132 3	173 9	476 5
1980	46 4	126.8	150.2	410.4
1981 (P)	47.1	129.0	165.6	453.7
1982 (P)	46.6	127 7	165.7	454 0
1983 (P)	52.6	144.1	159 3	436.4
1984 (P)	51.4	140 4	174.9	477 9
1985 (P)	47.3	129 6	169 1	463.3

(P) Provisional

The per capita availability of wheat which was 37.8 kgs in 1971 jumped to 46.1 kgs in 1972 slumped to 29.1 kgs in 1976. Since then it has shown increasing trend and reached to a level of 52.6 kgs in 1983. In the year 1985, it declined to 47.3 kgs.

Factors affecting wheat production

A combination of a large number of factors operate to reduce achievable yield potential at cultivators' fields. The intensity of these factors varies from location to location but can be generally categorised under the following heads:

(i) Climatic limitations
(ii) Soil problems
(iii) Technological problems
(iv) Socio-economic constraints
(v) Organisational issues

Among the above factors, the operation of climatic limitations can be avoided by proper choice of regions and varieties suitable for the area. Technologies exist for ameliorating the soil problems to a considerable extent. Socio-economic and organisational constraints can be resolved through appropriate development and administrative action plans. There are very few unresolved technological problems for the realisation of yield levels likely to be targetted under the existing/possible input status. The problem of breaking the existing barriers to potential yield of improved varieties are relevant only for the future when constraints to the use of costly inputs such as fertilisers and other agrochemicals became eased.

Potential for yield increase

A review of productivity levels in different states shows that it ranges from 3278 kg/ha in Punjab to 554 kg/ha in Karnataka. In some of the other important wheat growing states, with large area under wheat, such as Madhya Pradesh (1132 kg/ha), Bihar (1605 kg/ha), Rajasthan (1809 kg/ha) and UP (1917 kg/ha) the productivity levels are still comparatively low and thus potential exists for improvement and enhancement of production (figures given relate to the triennium ending 1985-86). The productivity levels of Punjab and Haryana can be achieved to a certain extent in most north and central Indian states as these have large irrigated areas and infrastructure.

In experimental plots yield levels of above 8 tonnes have been recorded in well-managed fields using medium duration varieties in relatively cooler parts of northern India. In the National Demonstration yields upto 6 tonnes per hectare have been recorded on cultivators' fields. Even in southern states where the winters are very short, yield levels of 4.5 tonnes have been frequently recorded. Average productivity for a very large number of National Demonstration plots in northern India, which accounts for major wheat growing area, has been found to be 4 tonnes per hectare. Against these potentials, the national

average yield has just touched 2 tonne mark, pointing to the large gap between the realised and realisable wheat yields.

The area under wheat in the major wheat growing districts of Uttar Pradesh comprising of Meerut, Bareilly, Moradabad divisions and the district of Nainital in 1987-88 was 2.095 million hectares (Table 4), as compared to total wheat area of 3.126 million hectares in Punjab. The per hectare productivity of wheat in Punjab is of the order of 3540 kgs whereas the average of these districts was only 2286 kg. The per hectare fertiliser consumption in these districts is also not as high as in Punjab and thus, there exists a potential of increasing wheat productivity to the tune of 12 quintals per hectare in these districts By doing so, an increase in wheat production by 2.5 million tonnes from these districts alone is possible, provided the modern wheat technology is transferred to the farmers in these districts on concerted manner The brighter part of the story is that the farmers of this region are alive and progressive Shallow tubewell programme coupled with fertiliser promotion initiated in 1988 could easily achieve this target In the Framework Action Plan initiated by the Government of India in 1988 it has been reported that these districts have adequate aquifer as well as high draft percentage in its groundwater Government of India has therefore, provided enough funds to tap these water sources.

Special foodgrain production programme

Subsequent to Mid-term Appraisal of the Seventh Five Year Plan, a Task Force was appointed under the chairmanship of Member, Agriculture, Planning Commission to undertake an in-depth study for achieving the targets of foodgrains production in the remaining two years of the Plan Based on the analysis conducted by the high powered committee, the Government of India released a Framework Action Plan A Special Foodgrain Production Programme was prepared for 169 districts in 14 states, out of which 71 districts were selected for wheat. During 1988-89 this scheme was implemented with 100 per cent assistance from the Government of India in various States of the country.

Table 4

Area, Productivity of wheat and total Fertiliser consumption in wheat growing districts of Western Uttar Pradesh

District	*Area (ha)*	*Productivity (kgs per ha)*	*Fertiliser consumption (kgs per ha)*
1	2	3	4
Sharanpur	177240	2291	102 78
Mazaffar Nagar	151695	2631	104 23
Meerut	156609	2809	105 43
Bulandshar	210759	2749	78 04
Ghaziabad	103906	2286	115.81
Bareilly	152913	1939	89 82
Badaum	222031	2154	73 44
Shahjahanpur	190643	2108	89.49
Pilibhit	124044	2058	104 74
Bijnor	116519	2048	106 69
Moradabad	265330	2141	88.69
Rampur	106059	2360	100.04
Nainital	118058	2373	164.23
Total	2095798	2286	101.80

Seed

It may be recalled that efforts to raise wheat yields in the 1950's and early sixties could not succeed until the high yielding dwarf wheat varieties were imported from Mexico. The yield response of local varieties which the scientists developed here was limited and even negative to intensive fertiliser applications. The high yielding dwarf wheat which nobel laureate Dr. Norman Borlaug developed, did remarkably well in India and proved adaptable to a wide range of climatic and soil conditions in the country Three unique characteristics of these Mexican dwarf high yielding varieties supplied to farmers were, high fertiliser and irrigation responsiveness, their habit of high tillering and ability to withstand stress conditions and tolerance to insect pest and disease. The productivity potential is relatively high

The rapid spread of high yielding varieties of wheat have had significant impact Over a period of over seven years- 1965-1972 wheat production expanded from 11 million to 26 million tonnes, an increase in production of food staple unmatched by any other country. The HYV coverage in relation to gross area have exceeded the Seventh Plan target of 79 per cent. During the year 1987-88 it is estimated about 86 per cent of wheat area was under HYV. As against a target of 10 per cent seed replacement rate for wheat, only 5 per cent replacement could be achieved. Thus, an all out effort has to be made so that replacement rate gets a quantum jump. For achieving this, detailed seed strategy has to be chalked out for each area/region The improved wheat varieties recommended for different states based on different sowing conditions are presented in Table 5

Fertiliser

Both manures and chemical fertilisers play important roles in wheat cultivation. Use of manure improves the general physical conditions of the soil particularly the capacity to hold water and nutrients. Because of their low nutrient contents, however, manure alone cannot meet the nutrient requirements of wheat. Therefore, it becomes necessary to supplement manures with chemical fertilisers to get sustained high yields.

A liberal quantity of bulky manure should be applied About 10 to 15 tonnes per hectare of well rotten farm yard manure or compost should be applied 4 to 6 weeks before sowing and worked well in the soil. Under irrigated conditions, for the high yielding varieties of wheat a dose of 120 kgs of N, 60 kgs

Table 5

Improved Wheat Varieties recommended for different States

State	Recommended Varieties		
	Irrigated timely sown	*Irrigated late sown*	*Rainfed*
Bihar	UP 262, HP 1102, HUW 206, Sonalika	HUW 234, HD 2307 HP 1209, Sonalika	C 306, K 8027
Gujarat	LOK 1, WH 147, HD 2278 Raj 1555, J 24, Kalyansona	LOK 1, Swati, HD 2327, J 405	C 306, Sujata Meghdoot. A 206, GW 2, GW 1
Haryana	HD 2009, HD 2329, WH 83, PBW 34, WH 147 Raj 1972, Raj 1555	HD 2285, WH 291 VW 120	C 306, WH 157, PBW 65, Raj 1972
Madhya Pradesh	HD 2329, LOK 1, WH 147,	HD 2285, LOK 1, Swati HD 2327, J 450	C 306
Punjab	HD 2329, WL 1562, PBW 34, PBW 120, PBW 54, PBW 154, KSML 3	HD 2285, PBW 238, SKML 1, PBW 54, PBW 138	PBW 65, DL 153-2, WI 2265
Rajasthan	Raj 1972, WH 283, HD 2009, HD 2278, Raj 1555, WL 1562 WL 147, Kalyansona	WH 291, VW 120, LOK 1, Swati, HD 2327, HD 2285	C 306, WL 410, Sujata, PBW 65.
Uttar Pradesh	HD 2329, UP 2003, UP 262, HP 1102, HUW 206, LOK 1, WH 147, HD 2278	HD 2285, Sonalika, HP 1209, HD 2307 HuW 234, Swati, J 405,	C 306, PBW 65, DL 153-2 K 8027, Sujata, A 9-30-1

of P_2O_5 and 60 kgs of K_2O per hectare is recommended For rainfed conditions and tall varieties these doses are suitably reduced For efficient use of fertilisers, soil test is essential and the fertiliser dose should be adjusted according to the nutrient status of the soil micro-nutrients A dose of 25 kgs per hectare of zinc sulphate (21 per cent Zinc) is recommended for correcting zinc deficiency Similarly, aspray of 1 kg of manganese sulphate per hectare is recommended tc correct manganese deficiency Where P is not applied as single superphosphate, application of Six quintals of gypsum per hectare before sowing would meet the sulphur requirement of the crop for a period of three years.

Irrigation

Wheat requires 4 to 6 waterings at the critical stages depending upon the soil type, at an interval of 21 days incase of heavy black soils and 15 to 18 days interval if the crop is taken on light soils First irrigation being given 21 days after sowing is the most vital and determinant one for wheat production. The time of irrigation and stage of growth of the crop is as below:

Stage of crop growth	Time of irrigation No of days after sowing
1 Crown root stage	21 to 25 days
2 Boot stage	40 to 42 days
3 Earhead formation stage	65 to 70 days
4 Grain formation stage .	90 to 95 days

Variation in this may be made according to local conditions If sufficient irrigation water is not available, irrigation may be given according to availability of water as shown below :

1 If only one irrigation is available	42 days after sowing
2 If two irrigations are available	first, 21 days after sowing and second 65 days after sowing.
3 If three irrigations are available	21 days, 42 days and 65 days after sowing.
4 If four irrigations are available	21, 42, 65 and 95 days after sowing.

Plant Protection

A large number of diseases attack the wheat crop in the country and cause damage in terms of both quality and quantity of the produce. Some of these diseases such as rusts and smuts are of national importance whereas others are of regional importance The three rusts of wheat take a heavy toll of wheat crop particularly in epidemic years. Karnal bunt regarded as a minor disease in sixties has now assumed serious proportion and is responsible for significant losses in yield. Leaf blight, powdery mildew, foot rot and wheat scab are other diseases which attack this crop.

Wheat, in India, was till recently considered a crop relatively free from the ravages of insect pests in field

(Contd. on page 17)

First-line agricultural extension projects

Arun A. Patel

The dissemination of research results and their utilisation is one of the most complex problems in the field of agricultural science and technology. The first-line extension projects discussed by the author in this article, aim at minimising the complexity of the issue so as to help in improving the farmers overall socio-economic condition.

IN ALL, THERE ARE FOUR MAJOR ORGANIZATIONAL streams devoted to extension work for agricultural and allied production : (1) the ICAR extension system, (2) extension system of the Ministry of Agriculture/State Department of Agriculture, (3) extension system of the Ministry of Rural Development/State Development Departments, and (4) development work by the non-governmental organizations etc. ICAR extension system comprises mainly research institutes and agricultural universities. The agricultural scientists and extension personnel of these institutions are required to play first-line extension role through organizing demonstrations, trainings, etc., on a limited scale, but forceful enough to have catalytic influence on other extension systems, sub systems The first-line extension projects e.g., Lab to Land Programme, National Demonstration Project, Krishi Vigyan Kendra, Operational Research Project for Tribals, Operational Research Project for Scheduled Castes & Other Backward Class, ORP for Specific task, etc.

The dissemination of research results and their utilization is one of the most complex and significant problems of our age. In the field of agricultural science and technology, there is a wide gap between knowlege (technology) production and knowledge utilization. However, the present rate of agricultural production could be doubled if the available technologies are brought to bear with the production processes and programmes, focussing more and more on transferring our new technologies away from the confines of laboratories and research institutes to the farmers and make them more result and work oriented. In this context, no less important is the role of first-line extension projects in boosting the country's farm production

The objectives of the first-line extension projects are (1) to organize first-line demonstrations by scientists to show the maximum genetic production potentiality of latest agricultural technologies to farmers and extension functionaries without loss of time (2) organize extension programmes to serve as extension labouratories for field training (3) involving large number of scientists in field work through these projects for rapid feed back for improving research and educational programmes.

The first-line extension projects are being implemented through ICAR Research Institutions, Agricultural Universities, some State Departments of Agriculture and some selected Voluntary Organizations For the implementation of the first-line transfer of technology programmes, the entire country has been divided into eight agro-climatic zones as recognised by the ICAR For effective supervision and monitoring of the programme, Zonal Co-ordination Units has been set up at Hyderabad, Ahmedabad, Jabalpur, Shillong, Ludhiana, Nadia, Bangalore and Kanpur.

Lab to Land Programme

In order to bridge the existing wide gap between the research and extension system, this special programme of Lab to Land has been launched in the country since July, 1979 The programme was initially sanctioned for only one year i.e. during the ICAR Goldern Jubilee Celebration Year, 1979 But in this limited span of time, the programme proved successful and has helped to motivate farmers to adopt new farm technology. This helped them in raising their employment level, increasing the farm productivity, income and level of living. Considering the above facts, the programme was extended upto May '82 as

Phase-I, June '82 to May '84 as Phase-II, June '84 to May '86 as Phase-III and finally the programme was converted into Plan Scheme with effect from 1.10.86 (1.10.86 to 31.3.90).

The Lab to land Programme aims at transfer of proved and viable low cost agricultural technologies to the adopted farm families in order to improve their overall socio-economic condition.

The unique feature of the programme is that a family has been taken as a Unit for planning and development. Secondly, emphasis is laid on Scheduled Castes, Scheduled Tribes, socially and economically Backwerd Communities. Among these communities, small and marginal farmers are adopted. Thirdly, the agricultural scientists are directly involved in the transfer of technologies evolved from research stations. As a result, the good feed back of the newly evolved technology was received by the scientists for further research.

Uner this programme demonstrations on farmers' fields, are organised by providing critical inputs upto Rs. 500/- per year per family to transfer the unadopted technologies On and off campus training programmes on different subjects are also organised. Moreover, field day, kisan mela, exhibition, extension fortnight, radio programmes, film shows, cattle camp, correspondence course etc. are the supporting activities of the programme Literature prepared by scientists themselves are published under the programme

National Demonstration Project

In 1964, a nation-wide programme of demonstrations, known as 'National Demonstration' on major food crops was launched. During 1966, 1000 national demonstrations in rice alone were conducted as part of the clelebrations of the "International Rice Year" Being convinced of the merit of such demonstrations in popularizing new technologies, it was decided to continue these first-line demonstration operations which were to be conducted by the researchers themselves In pursuance of this decision, the responsibility of organizing national demonstrations was transferred in 1967 to the ICAR from the Directorate of Extension of the Department of Agriculture, Ministry of Food Agriculture

The demonstrations conducted during 1965-67 were single crop demonstrations covering an area of 0.4 or 0.8 ha. Since 1967, the ICAR has re-oriented the programme introducing multiple croppingwhich aimed at maximizing production per unit time. In 1968, however, demonstrations were introduced in unirrigated areas also. In 1970, it was further emphasised that these demonstrations would be used as training grounds The concept of entire farming demonstration, introduced in 1980-81, was conducted for few selected farmers only

The National Demonstrations Project is different from the normal programme of demonstrations being carried out by the State Department of Agriculture. Their uniqueness lies in the fact that they are being laid out by the research workers, who get an opportunity to demonstrate in to farmers' fields what science can do to transform agriculture. Secondly, there is no control plot with which yield obtained in the national demonstrations can be compared. The entrie memory of the farmer and the neighbouring fields provide control for national demonstrations. Thirdly, emphasis in these demonstrations is to obtain maximum return per unit area per unit time, area is one acre and the time is one year Fourthly, the demonstrating farmers are small or marginal farmers so as not to attribute high yields to affluence. Last but not the least, the research scientists and the farmers work hand in hand during the growth period of the crop resulting in a quick feed back of the problems faced by them in the field.

The national demonstrations are intended to show the production potentiality of new technologies and influence the farmers as well as the extension agencies. The major objectives of the project is to demonstrate convincingly to farmers and extension workers, the genetic production potentialities of major crops per unit area of land, per unit time and encourage them to adopt and popularize these technologies for accelerating production.

The scheme is being implemented mostly through agricultural universities. With a few exceptions, of the 48 districts under the scheme, 42 are with the agricultural universities, 2 with the departments of agriculture (Goa and Pondicherry) and 4 with the ICAR research complex, Shillong, Meghalaya.

Operational Research Projects

The Project aims at the overall socio-economic development of Tribals with an integrated approach comprising of modern technologies of crops, horticulture, animal production, homestead vocations and improving health hygiene and nutrition etc. by utilizing local available resources These projects are of special nature because they do not follow a single course. They involve a little of everything that influences the tribal life. Again they are not uniform in their content, approach and structure, since they are so location specific In all, 24 Operational Research Projects for tribals are established through the different agricultural universities through out the country

There are three ways of promoting ameliorative activities such as protective, promotional and social. The problems of scheduled castes community are rather varied and complex and they can be solved only through the promotional programmes directed at generating gainful employment through improving the traditional skills, health and hygiene and nutritional programmes. With this background, the Government of India have developed a strategy to promote such programme to ameliorate the socio-

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Role of agricultural universities

Dr. R.K. Sharma

The agricultural universities have mainly concentrated on agricultural development but not on overall development of the rural communities says the author. The agricultural universities have now become highly specialised institutions besides having a variety of resource persons and other valuable infrastructure needed for overall development. Hence, the author pleads, at least in future these universities have to take up added responsibilities of developing other important facets of rural life.

THE INTRODUCTION OF THE NEW STRATEGY in mid-sixties in agricultural production ushered in a new era of growth and social institutional changes It was realized that to facilitate the establishment of a prosperous and egalitarian rural society, the agricultural sector had to grow at a rate much faster than before for the sake of the growth of the entire economy.

The green revolution of the sixties, which was the vehicle for modernizing agriculture brought about manifold gains in the yield of cereals and crops and opened a new chapter in the area of tropical agriculture. The new high yielding varieties of seeds were highly dependent on mechanized irrigational facilities and the use of fertilizers The new techniques though undoubtedly raising the hopes and aspirations of the peasant community, remained confined eventually to small and limited agricultural pockets in the country. It was primarily the landowning peasantry of the Punjab-Haryana and Western Uttar Pradesh belt who stood to benefit greatly from it. The high cost of inputs was paid off by the huge profits reaped by them.

However, the negative impact of the green revolution has been leaving its mark on the face of Indian agriculture, which has adversely affected the profit margin of its beneficiaries. The rising cost of inputs has failed to keep parity with the procurement prices offered by the government. According to the records of agriculture ministry, the input costs have increased 2 35 times more than those of outputs Also, the harmful effects of the techniques of the green revolution on the environment have been making themselves visible through a number of factors among which mention may be made of a lowering of the water table sometimes as low as 100 or even 200 feet

The agricultural sector also suffers from the adverse terms of trade The prices on an average are 10 per cent lower than the prices of industrial goods since 1970-71. A loss of Rs 63 615 crore in the agricultural sector has been recorded between 1975-76 and 1982-83 Interestingly, the price index shows that a peasant, in order to buy the same goods will have to earn an income double that in 1970-71 The beneficiaries of the green revolution are no longer able to maximize their profits which had kept them satisfied in the past The area under cultivation of the HYV had been stagnating The peasant's lack of incentive is apparent in the declining growth rate in production A recorded growth rate of 34 per cent over 1965-70 has been reduced to 2 2 per cent in 1985-90 (Gupta, 1989)

The first important step in the development of Indian Agriculture was the establishment of agricultural Universities in seven States (Uttar Pradesh, Punjab, Orissa, Rajasthan, Andhra Pradesh, Madhya Pradesh, and Karnataka) in 1960-65 The Education Commission (1964-66) then recommended that every State should have at least one agricultural university While defining the role of agricultural universities, the commission recommended that they should be committed to the following five essential objectives.

1 Increasing dissemination and application of knowledge relating to agriculture, including basic and applied research;
2 Emphasis on teaching and research directed at solving the immediate social and economic problems of the countryside,
3 To develop and teach the wide range of applied sciences and technologies needed to build up the rural economy;

4. To not only teach undergraduates, postgraduates and research students, but also to give specialized technical training to young people who are not candidates for degrees; and
5. Emphasis on adult and continuing education side by side with teaching regularly enrolled students.

To ensure a certain minimum uniformity in the structure, organisation and governance of agricultural Universities as well as to provide a sound legal base for their development, the 'Model Act' of the Indian Council of Agricultural Research (1966) was enforced.

To date, there are 26 agricultural universities in the country with constituent colleges in Agriculture, Veterinary Science, Animal Science, Dairy Science, Agricultural Engineering, Fisheries, Horticulture, Home Science, and Basic Sciences with variations depending upon the local needs and requirements Recently, Departments of Agricultural Meteorolgy, Water Technology, Food Technology, and Business Management which did not exist earlier have also been created in some of agricultural Universities

Sor far the main objectives of an agricultural university have been (i) to impart higher education in agriculture and allied sciences, (ii) to promote scientific advancement through research studies; (iii) to organize extension education functions in selected areas to serve as a model for the extension functionaries of the State Government, and (iv) to provide overall leadership in respect of agricultural development

Role of agricultural universities

Undoubtedly, the aforementioned functions of the agricultural universities have gone a long way in revolutionising agricultural production in several states The achievement of foodgrain production as also of increase in overall production of ther agricultural commodities has been of such a high order that even most of the developed countries have applauded India's efforts There has also been an appreciable socio-economic transformaltion leading to the improvement in the living standard of rural people in several states Accordingly, the contribution of Agricultural Universities in rural development has been a matter of legitimate national pride.

But looking to the actual state of affairs of overall development, the situation is far from satisfactory and it has often been pointed out that the innovations in agriculture have helped only the affluent and progressive farmers with higher scores on socio-economic and other personality traits The farmers with small, marginal and medium sized land holdings have yet to get the desired benefits of the innovations for optimizing production on their farms According to an estimate 80 per cent of the unemployed are still located in rural areas. Without raising the economic and social status of these people, the development programmes conducted thus far or likely to be planned in future have no substantial meaning. Not only the rural life is still ridden with wide variety of problems related to health and hygiene, civic sense, communication with the outside world, acceptance of innovations for development of their farm, home and self, and the like.

However, the original concept of Rural Universities contained in the recommendations of University Education Commission (1949) was lost sight of in the scheme of things. The agricultural universities mainly concentrated on agricultural development and not on overall development of the rural communities as was expected from these institutions when the idea of Rural Universities was conceptualised keeping in view the needs and aspirations of the rural communities.

In fact, these universities were intended to promote the overall welfare of the rural people covering all the facets of rural life. But the agricultural universities concentrated mainly on agricultural development only as pointed out earlier. If the other important facets of rural life were also simultaneously taken care of and developed by the agricultural universities by formulating relevant objectives, the rural development process would have definitely taken a different turn Several of the problems like rural unemployment, underemployment, migration of rural people to the towns and cities, rural poverty, etc , being presently encountered talked about at the national level, possibly, might not have been there at such an alarming rate.

The Agricultural Universities having strong Extension Education programmes do have a definite base at the grass-root level to bring about overall development in the rural areas

A properly motivated university extension team can well mobilise people's efforts and their resources for their overall development The Agricultural Universities, besides having a popular base with the rural people through its extension education programmes, also generate multi-disciplinary scientific information through its researches on a wide range of topics revealing overall existing situation of the rural areas The research data so available with the universities are of immense value for the first rate planning and successful implementation of rural development programmes

Reorientation of role

Hitherto, the Agricultural Universities have been concentrating mainly on teaching, research and extension functions. In addition to these functions, the agricultural universities in future shall have to take up added responsibilities of developing other important facets of rural life oncerned with the socio-economic transformation of the rural society. At the same time, the existing teaching, research and extension functions shall have to be reoriented to meet the changing needs of rural development. This calls for a multipronged and dynamic role to be

played by the agricultural universities in future.

The agricultural universities which have now become highly specialised institutions besides having a variety of resource persons and other valuable infrastructure needed for overall development, shall have to serve as a brain trust and information bank for actively involving themselves in planning, implementation and evaluation of rural development programmes. To really bring about socio-economic transformation of the rural society, all-round efforts are required to be made for effecting institutional, structural and attitudinal changes with the optimum utilization of both human as well as natural resources with the application of science and technology. The strategic involvement of the agricultural universities in future in rural development need to be spelled out in the following context :

1. Identification of the existing potential social and economic systems in the area besides quantifying the different target groups on the basis of their needs and interest
2. Formulation of development plans for the identified target groups based on the systematic analysis of available resources with in-built mechanism for over-coming constraints during the process of implementation
3. Promotion of income-generation with the application of appropriate technology and resource use on a rigorous scale in the following areas which are known to have a high development potential

   (i) Dryland and semi-arid farming
   (ii) Dairy, poultry, piggery, sheep and goat farming, pisciculture, rabittery etc.
   (iii) Bee-keeping and fisheries
   (iv) Floriculture, seri-culture, olericulture, vegetables, etc
   (v) Cottage industries utilizing agricultural by products and local raw material
   (vi) Rural art and crafts.
   (vii) Other relevant areas

4. Formulation of recommendations for marketing and market development, power utilization in rural sector, transportation and communication, roads, price structuring of farm produce, products of small-scale and cottage industries, livestock and poultry products, health, hygiene and sanitation, drinking water supply, etc
5. Development of desired aptitude and skill in a variety of jobs in the field of agriculture and allied fields and to promote the interest of rural youth in self-employment.
6. Motivation of unemployed agricultural graduates to take up the development of village Panchayat land for horticulture farming, social forestry and pasture in collaboration with the agricultural universities/ State Agricultural Department. The development so undertaken may serve as a model for development on similar lines in the area. Likewise, Veterinary and Home Science graduates who remain unemployed can be involved in taking up development work in rural areas.
7. Human Resource Development of rural women to make them efficient home-makers in the upkeep of their houses and families.
8. Development of inter-organisational productive working relationship and coordination between State Departments, Private and Public Sector organisations and agencies to check lop-sided development and to overcome duplicity, overlapping, confusion and conflicts in role performance and consequent waste of efforts in the development programmes. In order to achieve the requisite complementarity the Agricultural Universities have to involve themselves in the :

   (i) delineation of the roles of each one of these organisation as distinct from that of all others; and
   (ii) spelling out areas of collaboration as well as means of achieving this collaboration.

9. Monitoring rural credit and input supply, pertaining to agriculture, livestock, poultry, fisheries and other allied rural development programmes so as to ensure its availability on time within reasonable cost in required quantity to the users by the respective state departments/corporation and agencies. Emphasis would be to make available these inputs to the concerned clientele through a single window service.
10. Organisation of mass adult and continuing education programmes for creating an awakening among rural people for civic sense, their rights and responsibilities towards the nation, population education, schemes and projects meant for their upliftment, motivation for voluntary participation in development programmes and for the promotion of scientific temper.
11. Utilisation of mass media and other means of communication for quick technology transfer and understanding the environment.
12. Development of educational material for rural development in the form of films, transparencies, slides, cassettes besides the production of literature on appropriate technology for use by the different category of clientele as a support to technology transfer programmes.
13. Developing an understanding of the latent and inherent intricacies and complexities impeding the desired progress of rural

development programmes by undertaking case studies to guide future course of action.

14. Development of a strong training base at the grass-root level in collaboration with the different state departments both for the rural people as well as field functionaries for development of skills and desired attitudinal changes.
15. Helping in scientific monitoring and evaluation of on-going and completed rural development schemes and projects implemented by different development departments of State Government and other agencies.
16. Development of an effective mechanism for follow-up and reinforcement of the various rural development activities.

From the foregoing, it would be seen that the emerging role of agricultural universities calls for their effective and strategic involvement in the rural development in their respective states Undoubtedly, it would need not only the reappraisal of the teaching, research and extension functions of the universities but also the reorganisation of the universities' infrastructure both at their campuses and at the grass-root levels. The success of such a strategy of involvement of agricultural universities in rural development in future shall depend on the degree of collaboration between universities, concerned departments of the State Government and other rural development agencies. □□□

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and except for termites under rainfed conditions, few insects of economic importance were known, although the pest problems in storage have remained serious Shoot fly has emerged as a pest of wheat crop in India after the advent of high yielding varieties. Brown wheat mite, is another pest which has gained importance in recent years. Cutworms and army-worms, though known earlier to occasionally infest wheat have become serious in recent years. Phalaris minor weed is a great menace in Punjab, Haryana, western Uttar Pradesh and Himachal Pradesh. Timely and judicious application of weedicides is essential to minimise the menace.

Pest surveillance and monitoring are integral part of Integrated Pest Management Approach It is an effective tool for pest intelligence information which forms the basis for advance planning and implementation of plant protection programmes.Proper diagnosis and detection of pest/disease at an early stage facilitates forewarning and thus enable the State Plant Protection functionaries and farmers to advise/ adopt timely and needy seed control measures.

Future Strategies

The following strategies may be adopted for enhancing wheat production and productivity in the country:

(i) Crop and variety planning based upon well delineated agroclimatic zone is going to be the most vital aspect in enhancing production and productivity of wheat. The Planning Commission have already delineated the country into 15 agro-climatic zones and have initiated studies in each zone.

(ii) It is also desirable to initiate crop planning on watershed basis in various agro-climatic zones.

(iii) Research efforts be intensified for developing technology for specific areas in different agro-climatic zones with a feedback information system.

(iv) Genetic engineering techniques may be utilised for developing hybrid/high yielding varieities suited for various agro-climatic zones which should be physiologically resistant to pathogen, insect, pest, disease and nematodes.

(v) Timely sowing of the crop is very imprtant as the yields are reduced in late sown crops.

(vi) Care should be taken to have optimum plant population in the field as the yield depends upon the plant population.

(vii) Research in determining the most effective weedicides for controlling broad spectrum of weeds is a must.

(viii) Suitable and effective insecticides, pesticides and fungicides may be developed for controlling various pests and diseases attacking the crop

(ix) Though a wheat Project Directorate is already working under Indian Council of Agricultural Research, but for overall coordination and augmentation of research activities, it is proposed to set up a National Institute of Wheat Research. This may be located suitably in the western Uttar Preadesh which is a major wheat growing are a of the country.

(x) Efforts should be made to popularise duram wheats as it has been found to be less susceptible to karnal bunt.

(xi) Continued research is also required on socio-economic aspects of wheat farmers so as to determine how the recommended advances in crop technology may be adopted by these farmers.

(xii) Suitable credit support may also be provided to wheat farmers in order that they are able to purchase the required inputs at appropriate time and apply it in suitable doses.

(xiii) Efficient market support also be provided to wheat farmers so that they are able to get remunerative prices for their produce and give them enough incentive to adopt new technology for increasing production. □□□

Viability of regional rural banks—A case study

Abdul Noorbasha & M. Jyothi

A majority of RRBs which had initially raised high expectations as low cost institutions have proved to be non-viable say the authors. What are the reasons behind this plight? What are the remedies? These issues are analysed by the authors in this article with particular reference to Chaitanya Grameena Bank, Tenali, A.P.

AN ISSUE OFTEN RAISED IN CONNECTION with the operations of Regional Rural Banks (RRBs) is their viability The number of loss-making RRBs rose substantially from 100 in 1983 to 154 in 1985, which constituted 82 per cent of the total RRBs The RRBs profit as per Rs. 100 of operating earnings which was around 50 paise in 1978 rose to Rs 1 6 in 1980 But, in subsequent years the situation deteriorated substantially, the loss per Rs 100 of operating earnings rising to Rs 13 in 1985 (vide Table 1)

Cautioning the RRBs on their falling viability, CRAFICARD (1981) has rightly remarked that 'any credit institution, if it is to survive for long, cannot afford to incur losses continuously It has to become viable sooner or later A decomposition analysis of the RRBs' finanical aspects revealed that the important factor that has contributed to the losses incurred by RRBs is the spurt in expenses as compared with the earnings The RRBs to be perfect in financial management are therefore supposed to maintain a reasonable balance in income and expenditure with the provision for payment of interest and generation of internal resources

In the light of these observations, an attempt is made in this paper to analyse the financial management pattern of the Chaitanya Grameena Bank, Tenali, A.P. (herein after refered to as 'Bank') with an object of assessing its impact on the viability of the bank. The analysis is primarily based on the data pertaining to income and expenditure of the Bank The study restricts its scope to six years time period between 1983, the year of the Bank's establishment and 1988 upto which data are available. All the data upto 1987 are collected from various Annual Reports of the Bank and the data relating to 1988 are collected from the concerned records of the Bank At this juncture, it may be pertinent to quote the RBI study team (1981) which observed that 'on an average, a RRB would require about six years time and a network of 70 branches to become viable

Financial result

Pertaining to the financial results of the bank, an encouraging trend can be observed, though the bank has been continuously running at loss As can be seen from Table 2, the bank continued to incur increasing losses year by year

Excepting the initial year 1983, which scored a marginal profit of just Rs 30,000, in all subsequent years the bank had to suffer heavy losses which went up to the tune of Rs. 16.7 lakhs at the end of 1987 but has fallen to Rs 6 45 lakhs at the end of 1988

The figures relating to the income and expenditure of the bank revealed that there was a greater spurt in the expenditure vis-a-vis income, especially upto 1985 Till then expenditure was increasing at a three-digit rate Thereafter though expenditure was increasing at below 32 per cent at the end of 1987, it was increasing at an attractively decreasing rate It is this particular trend, which is primarily responsible for the declining growth of losses of the bank at the end of 1988 This particular observation coincides with the opinion of the working group on RRBs (1975) which remarked "A discussion on Viability tends generally to be in financial terms For financial institutions, it is indeed appropriate that it be so However, where the objective of the type of financial institution is Socio-economic, an initial period of financial loss may well be a price worth paying for widening the area of credit coverage."

Having observed that the hike in expenditure is responsible for the worsening situation of the Bank,

it may be useful to study the cost trends at this juncture so as to identify the areas for cost controls.

Cost structure

Table 3 demonstrates a break-up of the cost structure of the Bank during the study period. One can observe from the table, that the interest charges are growing at a greater pace than the salary bill and other establishment charges. The interest cost has gone up from just Rs. 1.74 lakhs in 1983 to about Rs 79 lakhs in 1988. In otherwords, the interest cost has gone up from just 31 per cent of the total expenditure to as high as 62 per cent during the same period. Salaries continue to occupy another 31 per cent, though it declined from over 45 per cent in 1983. It is significant to note that while the total cost was increasing at an annual average rate of 439.2 per cent between 1983-88, the interest cost has gone up by 883.4 per cent In other words, interest cost's increase is more than 100 per cent than that of the total cost.

Interest cost

A cursory look into Table 4 reveals that the ratio between profits and interest cost was gradually increasing till 1985 and started falling thereafter It indicates the better profitability trend of the bank after 1985. This can be substantiated from Table-5 also, which shows that the ratio between profits and assets has been falling down indicating a positive trend in the bank's profitability

It is thus understood that the interest charges constituted more than half the total cost. Therefore, every effort should be made by the bank to reorganise the deposits, borrowing-mix in such a way that the interest cost is brought down to a maximum possible extent

Since the earlier analysis obviously revealed that salaries and establishment costs are also contributing to the growing amount of total cost, an attempt is made through Table 6 to analyse the magnitude of these two, compared with the total volume of advances of the Bank during the study period. It can be seen from the table, that salaries continue to occupy more or less the same share of the advances of of business For every Rs 100/ of advances, the bank had to expend around five rupees almost through the study period. However, it is very much gratifying to observe that at the end of 1988, this figure has very sharply gone down to just Rs. 3.43 Further, it is also observed from the table that other establishment charges (excluding salaries) have drastically fallen from Rs. 2.32 per Rs. 100/ of advances to less than one rupee in 1987 and 77 paise in 1988 This signifies that salary bill is primarily responsible for the steep hike of the establishment expenses of the bank and hence the need for its control and minimisation However it is a bilateral process in the sense that besides the bank striving hard to extract the best talents of the staff at the given cost, the staff should also cultivate a sense of dedication towards the enhancement of the productivity of the bank.

Interest coverage

The particulars of total receipts are furnished in Table 7. It is understood from the table that interest receipts contribute a significant share to the total receipts through out the study period especially in the recent years. The interest receipts which constituted about 63 per cent of the total receipts in the year 1983, have gone up significantly to 94.5 per cent by the end of 1988. The remaining balance mostly belongs to the subsidy from sponsor bank by means of reimbursement of salaries to the deputed staff. Hence the RRBs have no other major receipts, except interest receipts.

Regarding the annual growth rates of interest receipts, from the same table one can observe a declining rate. While the annual growth rate was about 365 during the year 1984, it has dwindled down very sharply to as low as 37 per cent in 1987 and revived to 43.7 in 1988 suggesting the need for boosting up the volume of advances for profitable avenues.

Profit ratios

It may not be out of place to look at the Bank's overall financial results through the various indicators. Table 8 presents the various financial indicators and ratios pertaining to the Bank.

The rate of return on total loans indicates that the Bank is picking up well since 1986, and the rate has reached an attractive percent of 11.85 at the end of 1987. However, it is seen that at the end of 1988, the percentage has fallen down to 10.33. The Net income per employee has also been climbing up gradually from just Rs 7,202 in 1984 to Rs 24, 235 in 1988. In other words net income per employee during the study period has multiplied by 3 36 times At the same time, the gross yield on total assets also reflected the same interpretation on the growth of income and profits

Spread

The trend of the spread is an important criterion to judge the profitability of fund related business of banks. The spread is defined as the difference between average gross interest received on average earning assets and the average gross interest paid on average liabilities.

The trend of spread in the Bank is demonstrated in Table 9. Just in sympathy with the profit ratios calculated earlier, the spread also declined to 2.33 in 1985 from 3.24 in 1984. However, the spread began to rise from 1986 and by the end of 1988, it reached an all time high of 5 54 per cent.

The table further reveals that excepting the initial year 1983, in all the subsequent years the return on funds deployment has never fallen below 8 per cent and moreover by the end of 1988 the rate has gone up significantly to a double-digit figure. Concerning the

cost of funds, the rate has never crossed 7.5, thus facilitating a safe stay in financial administration. The Bank, however, should strive hard to redesign its resource mobilisation and deployment pattern in such a way that it paves the way for better returns

Table 1

Earnings and Expenses of Regional Rural Banks in India (1978-'85)

(Amount Rs. in Lakhs).

Year	No. of Reporting Banks	Current Operating Earnings	Current Operating Expenses	Net Current Operating Earnings	Net Earnings as per cent of current operating Earnings
1978	48	1,009.8	1,004.7	5 1	0 5
1979	59	1,885.8	1,888.3	4 5	0 2
1980	81	3,137.8	3,088 8	49 0	1.6
1981	105	4,925.2	4,876 4	44.8	0-9
1982	120	7,395.6	7,818 7	-423 1	-5 7
1983	149	10,385.0	11,189 9	-804 9	-7 8
1984	173	14,810.7	15,978.6	-1167 9	-7 9
1985	173	18,780 6	21,249 6	-2469 0	-13 1

Source. (1) Statistical Tables relating to Banks in India, RBI
(2) Statistics on RRBs, NABARD, December, 1984 and December, 1985

Table 2

Financial results of Chaitanya Grameena Bank During 1983-'88.

(Rs. in 000s)

Year	Income	Expenditure	Net Profit/Loss
1983	644 62	614 59	+ 30 03
1984	2595 22	2777 81	- 182.59
1985	4286 99	5779 67	- 1492 68
1986	6874 87	8173 84	- 1298 97
1987	9058 37	10728 58	- 1670 22
1988	12776 45	13422 09	- 645 64

Table 3

Total cost of chaitanya grameena bank during 1983-'88.

(Rs. in 000s)

Year	Interest Cost	Salaries	Other Establishment Charges.	Total Cost
1983	174 22	252 19	129 48	555 89
	(31 34)	(45 37)	(23 29)	(100 0)
1984	1152 55	1045 29	385 29	2583 13
	(44.62)	(40 46)	(14 92)	(100.0)
1985	2530.43	2379 04	556 01	5465 48
	(46 30)	(43 53)	(10 17)	(100.0)
1986	4345 47	2821 31	580 44	7747 22
	(56.09)	(36.42)	(7 49)	(100.0)
1987	5964.26	3489.09	697 99	10151 24
	(58.75)	(34 37)	(6.87)	(100 0)
1988	[illegible]33	4002.30	904 25	12775.88
	(61 70)	(31.32)	(7 08)	(100.0)

Table 4

Interest Charges Ratio of the Bank During 1983-1988.

(Rs. in 000's)

Year (1)	Profit before interest charges (2)	Interest Charges (3)	Ratio 3/2 (4)
1983	204.15	174.22	0.85
1984	969.95	1152:55	1.19
1985	1037.75	2530.43	2.44
1986	3046.50	4345.47	1.43
1987	4294 05	5964.26	1.39
1988	7223.70	7869.33	1.09

Table 5

Return on assets ratio of the bank during 1983-88.

(Rs. in 000's)

Year	Profit before interest Charges.	Total Assets	Ratio
1983	204.15	13,455.81	65.91
1984	969 95	34,539.20	35.61
1985	1037 75	62,490 90	60.21
1986	3046.50	89,421 93	29.35
1987	4294.05	1,10,085 15	25.64
1988	7223.70	1,58,523 80	21.94

Table 6

Establishment charges and volume of advances in the bank during 1983-'88.

Year	Establishment Charges per Rs 100 Volume of advances outstanding	Salaries per Rs 100 Volume of outstanding Advances	Establishment Charges (excluding salaries) per Rs.100 Volume of advances
1983	6 4	4 51	2 32
1984	6 92	5 06	1 87
1985	7 24	5 87	1 37
1986	6 18	5 13	1.05
1987	5 91	4 92	0 99
1988	4 20	3 43	0 77

Table 7

Interest receipts and total receipts of the bank during 1983-88.

(Rs. in 000's)

Year	Interest Receipts	Total Receipts	Percentage of interest to total
1983	406.06 –	644 62, (–)	62.99
1984	1888 21 (365 02)	2595.22 (302 59)	72 75
1985	3481.78 (84 39)	4286.99 (65 19)	81 21
1986	6094 75 (75.04)	6874.87 (60.36)	88.65
1987	8391.13 (37.68)	9058 36 (31 76)	92 63
1988	12061.35 (43.73)	12776 45 (41·05)	94.40

Note : Figures within parentheses represent annual growth rates.

Table 8

Some selected financial indicators pertaining to the bank during 1983-'88.

Total	*Rate of return on total loans (%)*	*Net income per employee (Rs.)*	*Interest expense Ratio (%)*	*Gross Yield on Total Assets. (%)*
1983	7.28	33.386	1 55	4.77
1984	9 14	7 202	4 32	7 49
1985	8 59	11 469	4 71	6 77
1986	11 07	17 821	9 71	7 67
1987	11 85	18 530	10 01	8 21
1988	10 33	24 235	18 74	7 62

Table 9.

Spread of the bank during 1983-'88

Year	*Return of funds*	*Cost of funds*	*Spread*
Year	Return of funds	Cost of funds	Spread
1983	3 34	1 61	1 73
1984	8 76	5 52	3 24
1985	7 96	5 63	2.33
1986	8 93	6 07	2 86
1987	9 75	6 39	3 30
1988	12 97	7 43	5 54*

***Provisional Estimate.**

Suggestions

The Chaitanya Grameena Bank, Tenali (A.P) is one among the many RRBs in the country, facing the problem of viability The Bank continues to run in losses till the year 1988. However a perusal into the particulars of the income, expenditure and financial results of the Bank revealed that the bank has been on the path of recovery towards attaining a stage of viability There is a clear evidence that the bank's losses are increasing at a decreasing rate and the spread is gradually climbing up.

The point however, remains is that the bank is yet to go ahead to make itself financially viable with better financial management, which will help in reducing the expenditure and increasing revenue.

In this connection certain suggestions that have been made by the RBI study Team (1981) and Kelkar Committee (1986) for reduction in the cost of funds to RRBs and for opening other avenues of income may be considered. One way of reducing the cost of funds could be a reduction in the refinancing rate to RRBs by NABARD and sponscr Bank. As kelkar committee has very rightly suggested the RRBs may be allowed to lend to public bodies like SC/ST corporations, Housing Boards, Village Panchayats, etc., and thus increase their earnings. If these and similar measures are employed, the RRBs at large will attain financial viability quite early. Chaitanya Grameena Bank is no exception. □□□

(Contd. from page 13)

economic conditions and to remove povery amongst the scheduled castes.

In all, 20 Operational Research Projects for Scheduled Castes and Other Backward Community were sanctioned by the Indian Council of Agricultural Research in March 1982 at all India level. The project aims at the overall socio-economic development of SCs and OBCs with an integrated approach comprising of modern technologies of agriculture, horticulture, animal husbandry and fisheries production, home science and homestead vocations, improving health, hygiene and nutrition, etc

Krishi Vigyan Kendra

The concept of vocational training in agriculture through Krishi Vigyan Kendras grew substantially owing to the greater demand for advancement of agricultural technologies and the growing progressiveness of the farmers. They need, not only knowledge and understanding but also progressively more and more skills in various complex agricultural operations. This is imperative for the rapid transfer of technology

The Krishi Vigyan Kendra concept differs from Agricultural Polytechnics' in that it does not intend to impart training to produce degree and diploma holders-another class of white collar job-seekers. It is designed to impart need based and skill-oriented vocational training to the practising farmers and to those who wish to go in for self-employment.

The three fundamental principles, viz., (i) agricultural production as the prime goal, (ii) work experience as the main method of imparting training and (iii) priority to weaker sections of the society are the backbone of the Krishi Vigyan Kendra Programme. The main objective is to provide a strong training support for bringing about production breakthrough in agriculture.

The first Krishi Vigyan Kendra was established in 1974 at Pondicherry. In 1976-77, 18 Krishi Vigyan Kendras and 7 Trainers' Training Centres (TTCs) were established. With the growing demand for more such Kendras, 12 more Krishi Vigyan Kendras were approved in 1978 and they were established in 1979 from A.P. Cess Fund. Pending clearance of the Sixth Five Year Plan Scheme on Krishi Vigyan Kendra, 14 additional Krishi Vigyan Kendras were approved by the Council in 1981 and established during 1982-83; In the mean time, the High Level Evaluation Committee strongly recommended the Establishment of Network of Krishi Vigyan Kendras in the Country and 44 Krishi Vigyan Kendras and 1 Trainer's Training Centre were approved and established. Thus, at present, 89 Krishi Vigyan Kendras and 8 Trainer's Training Centres are in existence in the country. □□□

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Food processing industries-strategies and plan of action

Archna Sood

Based on her interview with Shri P. Murari, former secretary, Ministry of Food processing Industries, the author here presents the strategies and plan of action for the development of the food processing industries in India. The priority accorded to the industry in the country's planning process is bound to provide the necessary boost to the industry for rural employment generation, and enhancing rural income; thereby ensuring an all round rural development.

FOOD PROCESSING IS THE SUN-RISE sector of today. The newly formed Ministry of Food Processing Industries is to give the much needed boost to this sector by following an integrated approach towards its development "A programme will be formulated for increased utilisation of agricultural produce, to reduce post-harvest losses, ensure better returns to farmers by providing processing facilities, generate employment in rural areas and provide the consumer the processed food at affordable prices", said Shri P. Murari, former Secretary in the Ministry of Food processing Industries The task is colossal considering that India produces agro-food material worth Rs 60,689 crores, out of which only 12 per cent is processed, which is dismal as compared to utilisation of 64 per cent of food material for processing in USA Another important feature is that 35 to 40 per cent of our fruits and vegetables valued at Rs 5,000 crores are lost in post-harvest handling which when processed could have provided a value addition of the same amount, thus, meaning a total loss of Rs 10,000 crores. In foodgrains again about 20 to 25 per cent is lost due to inadequate post-harvest handling technology.

The Ministry would think in terms of forward and backward linkages between industries and agriculture and thus develop the sector for transformation of the rural economy. A series of small-scale, cottage and rural cooperative units are to be set up in the producing areas for processing of indigenous products and also to prepare semi-processed concentrates which then can be processed by the larger units having the advantage of modern technology for processing, preservation, packaging and marketing. Shri Murari further elaborated Sectors such as fishery, poultry, meat, processing, leather industry, sericulture etc are also being studied for appropriate development

"The different areas of food processing sector have been dealt with by different Ministries so far, and the sectors have, not been getting the much needed attention as legitimately deserved Considering that there is immense potential for growth, the new Ministry would be directly responsible for the growth of all items relating to processed food so that an integrated approach is possible And, only by dovetailing various items encompassing this sector one can think in terms of an orderly growth and development Fruits and vegetables so far have been considered a luxury item and the taxation policies have been skewed, thus leading to a stultified development in the sphere of food processing Therefore, if we want to give primacy of place to this sector we must first think in terms of regular supply of essential raw materials to the units which manufacture processed foods, for their increased capacity utilisation Thus, provision of favourable conditions for growth and development of various horticultural and agricultural items would be the short-term priority for this Ministry", added Shri Murari

The long-term strategy is to take into account the overall growth by providing the infrastructure for post-harvest handling facilities, setting up of processing units in the producing areas and developing marketing facilities. The small scale, cottage and rural cooperative units in the producing areas are to be set up which would undertake processing of the indigenous products, marketable in the rural areas Also for preparing concentrates, semi-processing units are to be set up in the producing areas which will have nexus with the larger units, having facility of modern technology in storage, preservation, packaging and marketing, both for domestic and export purposes.

Emphasis on integrated approach

Elaborating on the strategy for setting up Agro-processing Unit in the country Shri Murari said that the main objective of the Ministry is to generate rural employment and enhance rural income through a vast network of village cooperatives and household units. Basically, the food processing sector would be divided into two broad segments namely indigenous products and export oriented products. We have a good range of indigenous products which are distinct from brand name items. We envisage the involvement of rural cooperatives which could provide infrastructural support by way of requisite inputs such as financing and marketing. Of course, in certain areas, there is need for induction of modern technology, for example, in packaging and production of foodstuffs for export.

Indian brand names have to be popularised and one must work towards large marketing networks in urban areas. Here we would necessarily have to induct modern technology and get the large business houses interested in the projects Also for better economies of scale in food processing industry, productivity is to be increased where the producer is benefitted, the processing units get supplies at a reasonable price and financially the net price to the consumer is acceptable Therefore, what we are trying to achieve is to increase the productivity per acre, so that overall income of the farmer is increased and also the finished product can be sold at lower prices, thus stimulating the overall demand. Processing units can utilise the excess produce And by increased demand, there is a chain reaction towards increased productivity and overall production, Shri Murari, further informed

The agencies for provision of such agricultural input will be cooperatives on the one hand supported by the state and central government agencies and larger houses on the other. For example, we would like to get larger houses or progressive farmers interested in the project so that they can undertake production of hybrid seeds on a large scale, utilising the latest technology for increasing production Besides, the larger houses will also be able to provide the inputs in relation to processing, packaging, cold storage and marketing including exports. The cooperatives will also make their presence felt for disbursement of knowledge towards propagation of hybrid seeds and to undertake projects for conversion of fresh fruits etc. into intermediary products like juices or concentrates, which can then be utilised by the larger units to prepare the final products.

The emphasis of course is to be on the integrated approach for setting up of agro-processing units, providing inputs and services for increased production and modern processing facilities for value addition. It will cover the entire gamut of activities right from harvesting, grading, transport, storage, processing and marketing. When we talk of transport naturally we think in terms of building a fairly good network of approach roads. Take the case of mangoes. Today you pick mangoes from an orchard, place them in baskets, load them on to trucks and carry them to producing centres far away in hot weather. The mangoes get bruised in transit and become over-ripe because of the heat and due to improper packing and handling. Thus, there is a tremendous loss or wastage right from picking till raching the final destination. These post-harvest losses can be controlled if we can think of transporting fruits in small insulated containers from the production centres to semi-processing units where juice is extracted, refrigerated and then trasnported either by road or rail. Similarly, for vegetables, spoilage losses can be checked if we develop integrated complexes with facilities for proper handling, grading and storage under controlled atmospheric conditions and transportation to intermediary processing centres. Shri Murari informed. "we would like the large private sector units, state governments, semi-government organisations and marketing federations to think in terms of purchase based on such an integrated approach."

Presently, the total expenditure on food research in India is less than Rs. 10 crores out of an annual R&D budget of Rs 2,500 crores, Unfortunately, there is dearth of scientific firm data base related to different items in food research such as the current status, the past status, future proiections etc So the first task of this Ministry is to build up a firm data base to facilitate proper planning, monitoring and evaluation of its various programmes. The data base is to be compiled on technologies available in the country and abroad, the state-of-the art technology, and the problems inherent in obtaining these technologies, the former secretary informed. Assistance is being sought from organisations like DGTD, Ministry of Commerce, the World Bank, UNIDO and scientific organisations like the Central Scientific and Industrial Reseach Laboratories, the Central Food Technological Research Institute, The National Defence Food Research Lab, the National Physical Laboratory and Regional Research Laboratories etc These organisations have done a lot of work in cryogenics. Many business houses also have a very strong R&D base which they can strengthen and channelise in this direction, since there is a great incentive now. The MRTP compaines now need not go through the painful process of getting clearance if they set up units based on purely indigenous R&D technology. It is a tremendous concession for large scale units. And it is hoped that MRTP companies will strengthen their R&D base vis-a-vis the food processing sector.

Shri Murari further informed that the Planning Commission has recommended conducting a series of in-depth stues and almost Rs. 700 crores are in the pipeline for the studies in the food processing industry. Studies are being commissioned in areas like meat and meat processing, leather industry, sericulture, poultry, fruits & vegetables processing and such other activities. Fisheries is another potential sector and the country's unbroken coastline

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Self-employment for rural women

Dr. Debal K. Singharoy

Ms. Prava Agarwal

Forty eight percent of the rural work force is women; yet they are discriminated against in employment opportunities, wages, social status etc, resulting in a gradual decline in their participation in work force. Self-employment, says the author, is the need of the time. It is required not merely as an alternative economic activity or as a source of additional earning; but for the best utilisation of the available but unexploited human resources. Spread of literacy and technical know-how in rural areas is bound to attract more and more women to self-employment projects/ programmes and such a situation is bound to bring in a sense of pride and a sense of dignity in the rural population.

RURAL UNEMPLOYMENT IS A SERIOUS PROBLEM IN PRESENT DAY INDIA. The acuteness of this problem has been sharpened with the process of imbalanced industrial growth, segregated agricultural development, high rate of population increase, predominant use of backward tools and technology on the one hand, and by the lack of the skill of the rural people to cope with the new situation on the other. Again, impact of rural development strategy, however, has been of assorted one to the cross section of rural population. It has sharpened the regional im-balances and class inequalities and has culminated in gender disparities in the society. While the main vehicle of the Rural Development Programmes like IRDP, NREP and TRYSEM, have been launched for employment generation and eradication of rural unemployment, no substantive measures have been undertaken for employment generation among the rural women until recently. One of the important lacunae of the rural development strategy in the last few decades of planned development in India has been the exclusion of women from development programmes. It is only after the report of the Committee on the Status of Women in India 1976, draft of the Seventh Five Year Plan and National Perspective Plan for Women's Development of 1988, women's employment issues started gaining considerable focus. The development planners, and the social scientists at present are well conceived with reality that the traditional means alone cannot provide the potential employment opportunity for the vast mass of the rural population and that the all round development of rural society is not possible by the exclusion of rural women from the working force

In recent years, the idea to create gainful employment opportunity through the available alternative source of potential economic activity has received considerable importance.

Rural female workforce

A vast majority of our population (77%) live in the rual areas and around 48% of this population is women. In the rural society women play important roles in terms of subsistance and reproductive activity, marketing of the products of agriculture and handicraft (Committee on the Status of Women in India 1974:49). Apart from these they spend almost 10-12 hours per day doing the household chores, including fetching of water and collecting fuel. (Planning Commission of India: 1985:32). But

women's economic activity has been subjected to social invisibility. Here traditional cultural taboos and patriarchal antagonism against women's participation in manual work, lack of skill, illiteracy and also their dependency on others for capital, tools and techniques etc. play decisive roles for their seclusion from the working force. Besides these there have also been the census bias against women from time to time in defining the term "worker" resulting in the exclusion of a large number of women from the working force in the government records.

Under the given circumstances, women's participation in the work force has declined in the last few decades. In 1911 there were 33.73% of the female workers to the total female population; in 1931 it came down to 27.63% and in 1951 their participation again decreased to 23.30%. Though in 1961 their participation showed a phenomenal increase to 27.96% it sharply came down to 11.86% in 1971. In 1981 this percentage was 14.44% Though the census bias explain to a larger extent the sharp decline of female work participation rate, prominent social scientists are in agreement that there have been a declining trend in the women's work participation rates in last few decades.

Table No. 1

Percentage distribution of Women Workers in India 1911-1981

Year	*Agri-culture*	*Indus-try*	*Ser-vice*	*Total*	*% of female workers to the total female population*	*% of female to total workers*
1911	73 9	14 7	11 4	100	33 73	34 44
1921	75 5	13 5	11 0	100	33 73	34 02
1931	72 31	13 7	14 0	100	27 63	31 17
1951	76 8	11 2	12 1	100	23 30	28 98
1961	79 6	11 6	8 8	100	27 96	31 53
1971	80 1	10 5	9 4	100	11 86	17 35
1981	78 60	—	—	—	14 33	—

Sources: Committee on the Status of Women in India 1974, Census of India 1981

One important feature of women work force is that inspite of gradual trends of decline, the overwhelming majority of this work force had remained engaged in agriculture. In 1911,73 9% of the female workers were engaged in agriculture, in 1981 their work participation in this sector has been 78.60% showing very little decadal variation over the years. Here it may be mentioned that though agriculture has remained the main venue of economic activity to majority of the women workers, the status and work relations of the female agricultural workers have undergone a drastic change over the last few decades.

Table No. 2

Distribution of Percentage of female main workers by cultivators and other workers: 1961-81.

Years	*Cultivators*	*Agricultural Labourers*	*Others*
1961	55 32	24 61	20 07
1971	29.73	50 99	19 28
1981	33.03	45.57	21 40

Source: Census of India 1961,1971, 1981

In 1961, of the total workers, 55.32% of the workers were cultivators and 24.61% of the workers were agricultural labourers. In 1971 the cultivators category sharply reduced to 29.73% and the category of agricultural labourers conspicously increased to 50.99%. In 1981 the percentages of the cultivators and agricultural labourers have been 33.03% and 45.57% respectively. The phenomena of the sharp increase of the agricultural labour category and the decline of the cultivators among the female workers have resulted from the increasing landlessness, loss of own lands, and eviction of sharecroppers households from the land and their gradual lapse in the agricultural labour force. This, however, depict the work condition of millions of rural women workers who are destined to doom there without alternative source of economy for the maintenance of their subsistence.

"Studies conducted in several parts of India indicate the aweful conditions of women workers in this sector (Agriculture) It is found that a significant percentage of the jobs are manned by women drawn from the lower castes and lower class ....Ignorance, tradition bound attitude, illiteracy, lack of skill, seasonal nature of employment, heavy physical work of different types, discrimination in wage structure, lack of guarantees of minimum wage, lack of security, lack of comprehensive legislation to cover these wokers in unorganised sector. .... ; illtreatment, immigration and disintegration of families, bondage of alienation etc are some of the characteristics of employment in this sector. Although these jobs offer no attraction and require a great deal of physical labour, large number of women continue to search for the job for their livelihoods over the years only to taste disrespect, slavery and illhealth" (Manohar, 1982: 8-18)

Self-employment for women: the scope

The given statistical profile and the research findings, however, act as the eye opener on the alarming work condition of rural female work force. The situation, indeed, asks for providing women with gainful alternative economic activities required to supplement their family income, and thereby ensure peace and happiness in their families. Generation of self-employment opportunities is the best possible alternative to bring the bulk of our population in the mainstream of national life. Self-employment is a must for the socio-economic uplift of rural women as,

(a) Agriculture cann't give employment to the female working force throughout the year.

(b) In major parts of the country women workers are low paid in comparison to their male counterparts even for the same types of work.

(c) A vast number of female agricultural workers of the agriculturally backward regions frequently migrate to other areas seasonally and permanently as well. It creates various social problems. It can be effectively stopped by generating self-employment opportunities among them in their own areas

(d) Literacy rate has increased among the rural female, though not substantially, in the last few decades. But proportionate increase in their salary-oriented employment opportunities has not taken place in the rural areas

(e) These females are from various socio-economic sections of the society and can serve as the most potential agent of change in the rural society, if introduced to new avenues of economic activities with self-employment .

The government of India has undertaken various programmes for the creation of employment opportunities for rural women The Department of Rural Development has been implementing the major poverty alleviation programme of Integrated Rural Development Programme (IRDP) and its two sub-schemes which focus, inparticular, on improving the socio-economic status of the disadvantage section of women in rural areas by developing among them the entrepreneurship and creation of income generating activities for them on self-sustaining basis. The 7th Plan, focuses on improving the status of women by helping them become earning member of the family. It has been decided to provide assistance to at least 30% women beneficiaries under IRDP during 7th Plan. In 1986-87 about 12% women beneficiaries have been assisted During 6th Plan, 3,32,544 women were given training in different trades under TRYSEM. Training has been provided to 60,000 women during 1985-86 and 21,259 women during 1986-87 upto September 1986. (Govt. of India, 1987).

Special self-employment schemes

The IRDP's special schemes which have been meant for the self-employment of rural women have invoked varied responses; and the success rates of these programmes have been different at Khanpur.

Khanpur is an agriculturally semi-developed village located 18 K.M. north West of Balurghat the district head quarter of West Dinajpur district of West Bengal. In the year 1984-85, of the 371 families of the village, 133 families were given institutional credits to start small business of paddy husking, prepartion of puff rice, grocery, goatary, piggery poultry and also to prepare mats out of jute fibre etc Of these institutional credits, 39 credits were in the name of women of Rajbansi, (SC), Polia (SC), Mahato (Extribal), Santal (ST) and the Muslim families. Besides these, 8 women from this village were given training in sewing, pappad making etc. for self-employment.

While investigation was carried out it was found that only 63 families of the beneficiaries continue with the business of paddy husking while all other business have come to an end or on the verge of closure. Regarding women trainees of TRYSEM only one was there— with the sewing machine. A further investigation on the self-employment situation of the village revealed that the women given loan etc. for the business of paddy husking and preparation of pulf-rice have continued their business successfully and earn around Rs 60/- to Rs/ 90/- per week to substantiate their family income.

The programme for goatary, piggary and cattle raising failed in the village Making of mats out of jute fibre has wide scope as jutes are cultivated on large scale in the village and jute mats have demand in the urban areas Even this has not flourished in this village because (a) village women were not given proper training for improved quality, (b) for the marketing facilities they were dependent on the middlemen, (c) it was not quickly yielding profit (d) as their capital was blocked they remained unemployed for many days, (e) their dependence on money lenders kept on increasing and gradually they utilized their capital for consumption purposes

Suggestions

After examining the success and failure stories of the self-employment programmes and ascertaining the broad promise of this self-employment venture, the following possible suggestions are put forward as the future course of action for the successful implementation of the said programme·

Rural female work force is a heterogenous group. Some of the groups have hidden potentials and skills. Hence, while women are brought under certain target groups traditional skills are to be located and if possible programmes are to be undertaken to enhance their skills and to take programmes accordingly.

Women are to be organised into local groups with self-employed women in the rural areas as its base. Formation of a local ogranization with the help of these women will help them to solve many problems

There is an urgent need not only to increase literacy rate among them but also to give them vocational training. It has come out of recent empirical investigation that female who joined the adult-education programme have shown more interest in self-employment activities more confidently and successfully than others.

Many of the self-employment activities in the rural areas have collapsed because of the lack of financial and marketing assistance. Hence special

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Tractor operations profitable

A.E. Hinge, D.L. Sale, A.V. Gavali & J.R. Pawar

Farm mechanisation is said to be complete with the introduction of tractor for farm operations such as ploughing, harvesting, threshing etc. Despite this, tractor has remained a subject of controversy for many reasons. In this article, through a study of the sugar factory areas of western Maharashtra, the authors establish that tractor operations are indeed profitable.

WITH THE INCREASE IN THE POWER DEMAND, Indian farmers are increasingly relying on tractor for farm power There is an appreciable demand for tractors. Tractor is used for different farm operations such as ploughing, harrowing, threshing etc and transport Farm mechanization is said to be more complete and meaningful with tractorisation Sometimes mechanization is essentially referred to as tractorisation Even though tractor is being increasingly used in Indian agriculture, it has remained a subject of controversy. Tiny size and irregular shape of land holding, non-availability of adequate capital, escalating prices of tractors as well as petroleum products, fear of unemployment due to displacement of human and bullock labour labour by tractorisation are the main prohibiting factors of tractorisation.

It is important to know whether it is better to introduce a tractor in farming business or otherwise. It has been observed that introduction of tractors in farming business has been prominent in areas where sugarcane has been grown as the major cash crop. Present study is therefore, an attempt to understand the impact of introduction of tractor and it's relative profitability in sugar factory areas of Western Maharashtra. The study was conducted with the following specific objectives.

(1) To study the impact of introduction of tractor on farm bullock population.

(2) To study the relative profitability of tractor operated and bullock operated farms.

Methodology

The study was carried out in Nasik and Ahmednagar district The study was based on the data obtained by the survey method from 120 farms selected from 12 villages by adopting the three stage stratified random sampling technique with tahsil as primary unit; village as a secondary unit and tractor owner/non-owner (bullock operated) farm as an ultimate unit of sampling The study confined to 60 tractor operated and 60 bullock operated farms Two tahsils from each of the two districts, three villages from each of the four tahsils and five tractor operated and five bullock operated farms were selected from each of the twelve villages The data pertains to the reference year 1982-83

Introduction of tractors

It is assumed that the difference between the bullock units that were present on the farm before the introduction of tractors and bullock units retained on the farm after the introduction of tractors, could be considered as the physical displacement of bullocks due to introduction of tractor Table-1 gives the information pertaining to number of bullock units available on the tractor operated farms prior to and after the introduction of tractor. It can be observed from the table that there were 2.70 bullock pairs before the introduction of tractor Whereas, 1 56 bullock pairs were retained after the introduction of tractor on the overall basis The bullock pairs on group I and II before the introduction of tractors were 2 33 and 3 07, respectively, While number of bullock pairs retained after the introduction of tractors were 1 40 and 1.73 on group I and II, respectively Further, it is observed that bullock pairs displaced on tractor farms overall were 1.14 (42.22 per cent) and on group I and group II were 0 93 (35.91 per cent) and 1.34 (43.65 per cent) respectively. Therefore, it is seen that displacement of bullock population varied from 39.91 per cent to 43.65 per cent on groups as well as at overall level on tractor operated farms The percentage of displacement of group II was more as compared to group I.

It thus revealed that scope for physical displacement of bullocks was more or larger size farms. The

farmers were required to maintain minimum number of bullocks for operations such as sowing, hoeing etc. for which tractors were yet to become adoptable However, for other operations where tractors can be put to use, the increased work with increased size of farms can be done with help of tractor and the additional bullock units which would otherwise be required, could be displaced by introduction of tractors This is perhaps the plausible logic for the displacement revealed from the table

Table -1

Average per farm physical displacement (reduction in population) of bullock pairs on tractor operated farms.

(bullock pairs)

Particulars	*Grop -I*	*Group II*	*.Overall*
Bullock pairs prior to the introduction of tractor	2.33	3 07	2 70
the introduction of tractor	(100.00)	(100 00)	(100 00)
Per hectare bullock availability	0.32	0 24	0 27
Bullock pair retained after	1 40	1 73	1 56
the introduction of tractor	(60 09)	(56 35)	(57 78)
Per hectare bullock pairs retained	0 19	0 14	0 16
Displacement of bullock	-0 93	-1 34	-1 14
pairs due to introduction of tractor	(39 91)	(43.65)	(42 22)
Per hectare displacement of bullock	-0 13	-0 10	-0 11

(Figures in parentheses indicate percentage to the total bullock pairs existing prior to the introduction of tractors)

Total returns

The information pertaining to per hectare costs and returns from the crop enterprises has been presented in Table-2. It can be seen that average per hectare gross returens, cost and net returns from crop enterprises were Rs. 1367012, Rs. 994461 and Rs. 372551 on tractor operated farms at overall as against Rs. 848859, Rs. 720999 and Rs 1278.60, respectively at overall basis on bullock operated farms. The per hectare net returns on tractor operated farms were more by an amount of Rs 2446.91 on overall basis. As regards the groups, it can be seen that per hectare net returns were the highest on group I (Rs. 489672) of tractor operated farms followed by group II (Rs. 372551) of same type and then by group I (Rs. 2391.62) of bullock operated farms and it was the least on group II (Rs. 829.90) of bullock operated farms. It is noteworthy to see that all the groups of the farms on an average were in profit. This reveals that net returns on tractor operated farms (Rs. 3725.51) in general were considerably higher than that of bullock operated farms (Rs. 1278.60). The per hectare more returns from crop enterprises could be attributed to higher use of farm inputs such as seeds, manures, fertilisers, insecticides and pesticides, irrigation etc. on tractor operated farms which perhaps might have led to higher total returns. These input expenses on tractor operated farms varied from Rs. 3481 to Rs. 3993, whereas in case of bullock operated farms it varied from Rs. 2074 to Rs. 2848 per hectare.

Conclusion

The study revealed that the tractor operated farm were more profitable than bullock operated farms. Introduction of tractors were seen to add to the farm operational efficiency, add income and also reduce the maintaince cost of bullocks. □□□

Table 2

Per hectare expenditure and returns of crop enterprises on sample farms

Rs

	Tractor operated farms			*Bullock operated farms*		
Sr No. Items	*Group-I*	*Group-II*	*Overall*	*Group-I*	*Group-II*	*Overall*
I Cash expenses						
(1) Hired labour						
(a) Human	910 05	817 50	848 55	441 30	454 05	452 93
(b) Bullock/tractor	0 78	0 65	0 73	39.28	33 22	35 45
(2) Other inputs	3993 12	3481 62	3676.88	2848.61	2074 64	2359.50
II Imputed cost						
(1) Family labour						
(a) Human	469 95	337 43	388.05	654.07	372.10	605 63
(b) Bullock/tractor	1530 09	1679.98	1633 32	1449 42	1326 19	1370.09
(2) Land revenue and taxes	10 14	11.80	11 17	6 90	7.12	7.05
(3) Depreciation of assets	363 07	368 01	366.13	322.10	319.89	319 96
(4) Interest on working capital	306 50	268 80	282.85	208.07	160.12	177 99
(5) Rental value of land	2585 74	2070 49	2267.18	1795 25	1191.30	1413.39
(6) Interest on fixed capital	509 12	402.87	469.75	607 98	422.00	467 80
(7) Total cost per hectare	10678 56	9439 15	9944.61	8372.98	6360.63	7209.99
(8) Total returns per hectare	15575 28	12493.75	13670.12	10764.60	7190.53	8488.59
(9) Net returns per hectare	4896.72	3054.60	3725.51	2391.62	829.90	1278 60

Can IRDP become more relevant ?

Dr. K. M. George

In this article the author commends the role of IRDP in improving the economic conditions of the rural poor. He says that IRDP has done a good job in creating ripples in an otherwise unconscious vast multitude of the rural poor.

GROWTH WITH SOCIAL JUSTICE HAS BEEN the basic plan objective in India. In fact, reduction in the incidence of poverty and its ultimate elimination is the national goal Planning Commission has arrived at the norm that family having annual income of Rs. 6,400 or less (at 1984-85 prices) is to be considered as one below the poverty line using the household consumption expenditure data collected by NSS in its 38th round (1983) On the basis of the 32nd and 38th Rounds of National Sample Survey, the percentage of rural population below the poverty line has declined from 51.2 in 1977-78 to 40 4 in 1983-84 The Seventh Five-Year Plan started with 222 2 million persons below the poverty line who constituted 39 9% of the rural population The Plan projects that by 1990-91, the percentage of population below the poverty line in the rural areas will come down to 28 5% and the long-term objective is that by 1994-95, it would be further brought down to 10% and hopefully it will be completely eliminated by 2000 AD

IRDP was first introduced in 1978-79 in a few selected districts and was later extended throughout the country by 1980-81 In the seven years ending 1986-87, nearly 25 million families have been given self-employment assistance under IRDP involving a total investment of Rs 8218 crores of which the bank credit alone amounts to Rs. 5240 crores Last year, the credit mobilisation under the programme was of the order of Rs. 1000 crores. Such a major intervention by the Government in favour of the poor is probably unparalleled anywhere else in the world The implementation of the programme has shown that it has been fulfilling the targets both in physical and financial terms.

Our Planners have always avoided the hard options of a radical nature and opted for soft solutions. They have, for example, avoided radical land reforms and structural changes and opted for special programmes for the poor, and also opted for isolated anti-poverty programmes instead of introducing rigorous and highly systematical and comprehensive planning at various levels. In short, they have chosen a developmental process which is of least resistance and which favours the vested interests of the power elite The complexities of the present problems, however, suggest that we cannot go on like this for ever The time has now arrived when we have to make hard choices for our developmental path The policies which just scratch the system on the surface will no more deliver the goods We have to now accept that unless we change our path towards the interest of the masses of the poor, we will not be able to face the challenge of poverty eradication. Unless we put a brake to the indiscriminate high-tech. growth process, and choose a path that provides ample employment opportunities for the poor, we will not be able to eradicate poverty of the masses.

This is the background of gauging the height of IRDP Under this the efficiency of investment and recasting of IRDP are also examined. However, one should critically evaluate the impact of the direct intervention programmes meant for poverty alleviation before coming to policy recommendations of reshaping IRDP

The thrust under IRDP is to bring about qualitative improvement in the implementation of the programme by strengthening the backward and forward linkages, diversifying activities under the programme by emphasizing on the secondary and tertiary sectors. National level committees have been set up for animal husbandry, horticulture and small scale industries to forge stronger linkages between the infrastructural facilities available and the beneficiaries under these sectors in different parts of the country Intensive work of introducing sericulture in areas where it is feasible to promote it has been undertaken so as to bring this as one of the major activities for the IRDP beneficiaries

During the year 1987-88 special efforts were made to monitor the assistance given to the very poor. Supplementary dose of credit was given to families assisted during the Sixth Five Year Plan period but continued to be below the poverty line for no fault of theirs. The limit for security free loans under IRDP has been raised from Rs. 5,000 to Rs. 10,000 for agriculture and allied activities. The scheme for

strengthening the block machinery and Monitoring Cell at the State Headquarters also continued. The target for 1987-88 was to assist 39 lacs of families comprising over 29 lacs old beneficiaries of the Sixth Plan and 9.96 lakh new beneficiaries. An allocation of Rs. 310.60 crores has been provided in the central sector. The total allocation including the state share for the implementation of the IRDP was Rs. 613.38 crores. Term Credit of the order of Rs. 981.82 crores was expected to be mobilised for the implementation of the programme during the year 1987-88. The achievements under IRDP are presented in the following table :—

Table 1

Targets and Achievements of IRDP in 1987-88

Details	*Annual target*	*Achievement till Jan. '88*	*% age*
	(Rs in crores)		
A. Financial Progress			
Allocation (Central & State)	613 38	477 68	77 88
Release of Central Share	310 60	269 54	86 77
Credit	981 82	783 28	79 81
B. Physical Progress			
Families to be assisted (Nos in lakhs)	39 11	29 02	74 22
(a) Coverage of SC/STs to the total assisted	30%	12 46	42 92
(b) Coverage of Women families to the total assisted	30%	4 82	16 61

Source Annual Report, Govt of India, Department of Rural Development, 1987-88, Page 17

The percentage of families assisted was 74 22. Against a target of 30% coverage for SC/STs to the total assisted, the achievement was 42 92% However, coverage of women families to the total assisted was 16.61% only

Details of physical and financial progress under IRDP during 1987-88 till Jan. '88 are presented in appendix I The data are given State and Union Territory-wise The various parameters presented, include central and State shares, utilisation, total families assisted, coverage of SC/ST and women as well as disbursement of term credit by co-operatives ans commercial banks.

Improvements in Programme Implementation

With a view to improving the implementation of IRDP, the Department of Rural Development, Ministry of Agriculture has taken up a monthly concurrent evaluation of the programme from October 1985 onwards. It is expected that the concurrent evaluation study will continue for one more year. The second round of concurrent evaluation of IRDP was undertaken from Jan '87. The survey was conducted by selected research institutions all over the country. Every month 72 blocks from 36 districts on a rotating and random basis are selected. A sample of 40 beneficiaries from two blocks in a district i.e. 20 old beneficiaries and 20 new beneficiaries are selected on random sample basis for the collection of data Six monthly concurrent evaluation of IRDP for Jan.-June 1987 was prepared covering a sample of 8086 beneficiaries. Based on the study findings, the following steps were taken to improve the implementation.

- The uniform application cum approval form for IRDP borrowers has been introduced with effect from 1st April, 1987.
- The limit for security free loan has been raised from Rs. 5,000 to Rs. 10,000 for agricultural and allied activities.
- A format of Master Policy cum agreement for livestock assets has been finalised and circulated to all State Governments for adoption.
- To facilitate proper disbursement of the assets, the banks have fixed one day in a week for disbursement purpose under IRDP though the processing of applications and sanction of loans will continue throughout the month.
- In order to expedite the pace of communication to and from the DRDAs telex facility is being introduced.
- The mini computer centres would be set up in DRDAs using funds available under administrative infrastructure Computerisation of the basic data of Rural Development Schemes at the district level will make it possible to monitor the progress and quality of these programmes.
- Diversification of activities to include new and innovative programmes like fruit processing units, fish farming etc. would be encouraged
- Close dialogue and coordination between DRDA and employment exchange for employment opportunities and training under TRYSEM will be initiated
- Setting up special teams/missions for formulation of major projects on pilot basis for a few selected districts will be started on a priority basis
- Stipend/honorarium payable under TRYSEM has been enhanced in 1987.
- A computer model for block level planning has been prepared and circulated to the States. Project Directors have been exposed to this model.
- The beneficiary can also opt for continuance of insurance for animals even after he has paid off the loan, at concessional rates of premium, for a further period of three years after the closure of the loan account.

Institutional Finance for IRDP

Financial assistance under IRDP is provided by the banking institutions They include commercial banks, co-operative and Regional Rural Banks. Credit

mobilisation till December 1987 was nearly Rs. 690 crores against the target of Rs. 982 crores. This is likely to increase substantially based on the achievement of Rs. 1014 crores over a target of Rs. 870 crores in 1986-87. With a view to removing the constraints and streamlining the procedures close liaison is maintained with the Finance Ministry, Reserve Bank of India and NABARD. The credit linkages have been made compulsory in North Eastern Region with effect from April 1985. It has been decided with the approval of RBI to permit DRDAs to perform loaning functions on behalf of banks in unbanked blocks in Arunachal Pradesh, Nagaland and Manipur. Thus DRDAS will draw and disburse money to IRDP borrowers and recover the loans.

A pilot project for disbursement of loan and subsidy in cash was introducced on an experimental basis in 22 blocks with effect from 1st April, 1986 According to the evaluation study conducted by Reserve Bank of India in Jan. Feb. 1987 it was observed that cash disbursement had some good features such as elimination of leakages and satisfaction of beneficiary in acquiring asset of his own choice. However, the study also reported some adverse aspects like diversification of cash for consumption purposes A subsequent study again conducted by the RBI in Nov 1987 pointed out that the post-disbursement supervision of assets by financing banks, which is an essential feature of the scheme was not effective due to pressure of work on the bank staff The RBI, therefore, advised against extension of cash disbursement scheme to more blocks

Simplification of Procedure

Department of Rural Develoment of the Govt of India constituted a committee under the Chairmanship of Secretary, Rural Development to suggest simplification of procedures under IRDP Senior officials of Banking Division, RBI and some Commercial Banks were the members of the committee.

The working group on Lead Bank Scheme set up by the Banking Division of the Ministry of Finance has submitted a report suggesting certain structural changes in the various coordination committees. Various parameters relating to credit such as bankwise distribution of loan, repayment schedule, level of overdues, insurance of assets and the like were monitored through the concurrent evaluation. It was observed that 81 per cent beneficiaries had found the financial assistance sufficient for acquiring the assets. About 44 per cent families had no overdues, 31 per cent had overdues less than Rs. 1000. However, one area which continues to cause concern is lower repayment schedules prescribed by the bank The concurrent evaluation reveals that the repayment period was less than 3 years in 15 per cent cases, and just three years in 33 per cent cases.

Insurance of Assets

The General Insurance Corporation of India and its four subsidiaries provide insurance cover for the assets under IRDP. So far as livestock assets are concerned, a format of Master Policy has been finalised and circulated to all State Governments. Under the Master Policy, IRDP beneficiaries are entitled to concessional rates of premium. If the beneficiaries have any animal other than the one acquired under IRDP, he can avail of concessional rates of premium for these animals also.

Further the beneficiary can continue the insurance cover at concessional rate after the closure of the loan account if the animals do not exceed insurable age limit. The claim procedure has been simplified to secure expeditious disposal of claims.

Intervention Strategies

The Public Accounts Committee (PAC) of Parliament has made some recommendations about the reshaping of IRDP in one of its reports. The PAC observed that the IRDP approach was defective on account of a number of reasons. They include non-comprehesive approach, multipilicity of agencies with poor coordination and the like The committee further added that, "the programme which does not help poor households cross the poverty line in one-go, cannot carry its credibility as to its validity and hence credibly outlays rural elementary needs of the IRDP" The PAC also highlighted the implementation problems encountered by IRDP like inadequate infrastructural support, poor administration of second dose of assistance, great hurry at the end of the financial year etc Besides, organisational problems also came in for sharp criticism by the PAC.

People's participation should be encouraged through beneficiary level participation. Infact, the representations of people in local self-government do not necessarily represent the interests of the poor and they tend to go against the interests of the poor to favour the interests of their own class According to critics the scope for IRDP is limited, Based on the present development-process, IRDP remains the only isntrument in reaching out the poorest of the poor with some measure of success Genuine voluntary organisations if associated with IRDP can play a very significant role in making the delivery system efficient.

Action through voluntary sector is also an important means of channelising public participation in poverty alleviation programmes Recognising the importance of the voluntary sector, 10% of the funds of Rural Development programmes has been earmarked for this purpose The funding of voluntary organisations in taking up poverty alleviation programmes is done through CAPART. CAPART has been able to identify and evaluate the capabilities of voluntary organisations in the country and has been continuously interacting with them to increase the level of participation from the voluntary sector in the programme There is a scope for further increase in the participation by the voluntary organisations in

the programme.

The contribution of IRDP to lift the beneficiaries above the poverty line depends on the income levels of the households during the pre-loan period and the scale of financial assistance rendered apart from the efficiency of the performance of the assets financed. Despite the low level of income and inadequate access to working capital, a realatively large proportion of IRDP assets under the primary sector which are relatively more risk and leakage prone, are found to be intact with the poorer households. This may be explained by the economic viability of such enterprises for the poor on account of labour intensity and scale neutrality of these activities as well as the familiarity of the poor with the skills needed for running such traditional enterprises It can be said with confidence that the success of any poverty alleviation programme should be judged by the extent to which, at the end of the plan period, the assets and skill distribution pattern becomes more egaliterian and equitable In the case of IRDP it is necessary to think in terms of assets other than land because its capacity to absorve additional claims is meagre Besides, greater attention needs to be paid to upgradation of traditional skills and imparting new skills which are required for diversification of rural economy and sustaining its viability As a matter of policy poverty alleviation should become the major aim of development and not mearly a separable component of the Five Year Plans Infact, it should become a integral part of a single plan whose major aim would be to create a more egalitarian structure, which would mean not merely removing poverty but removing the causes which generate poverty Poverty crossing would be a shortlived phenomenon if the causes of poverty are not eliminated and the poor are unable to acquire assets and skills which will help them to earn and live a decent livelihood

On the whole the performance under the Integrated Rural Developmental Programme has been impressive in terms of financial and physical parameters Nonetheless, the grey areas still continue to contain the effectiveness of the programme

It is an accepted fact that the direct intervention strategies meant for poverty alleviation have created an impact As brought out in a number of studies based on the data bearing on several indicators of performance of IRDP, scholars have attempted comprehensive analysis of these results for different states. Kurian (1987) in his analysis of different states has established beyond doubt the relevance of IRDP, when he observes, "IRDP can not only provide assets to the poor families but also can create awareness among the poor about the possibility of a better life and their right to achieve it and the means of achieveing it " The fact therefore, remains that IRDP has really done a good job in creating ripples in an otherwise unconscioous vast multitude of the rural poor about their rights for development and better quality of life. □□□

(Contd. from page 26)

measures are to be taken through the Rural Development Banks and the Block Development Offices to ensure these facilities for self-employed women.

Arrangements are to be made to supply appropriate technology for these rural women. Here special care should be taken not only for the transfer of appropriate technology to the self-employed women, but also for the transfer of any sophisticated technology to the rural areas.

While introducing any new programme for self-employment local needs and availability of the local resources must be kept in mind.

The self-employed women need to be brought close to the administrative and welfare machinary There must be a "confidence creating" attitude on the part of the officials.

The selected target group should be brought under achievement motivation training in order to make the self-employment programme more effective and enduring □□□

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Environmental clearance for Private sector Projects

The guidelines for siting of new industries framed, and circulated to Ministries, State Governments and Pollution Control Boards would apply to private sector projects also

Shri Z R Ansari, Minister for Environment and Forests, gave this information in the Lok Sabha recently

The Minister said that guidelines for siting of new industries had been framed and circulated to Ministries, State Governments and Pollution Control Boards The guidelines provided that for twenty categories of polluting industries which had been identified, environmental clearance was necessary for conversion of letter of intent to industrial licence The guidelines provided that conversion of letter of intent to industrial licence was to be done only after the conditions stipulated had been fulfilled

At present, environmental clearance was accorded to thermal power, hydroelectric, ports and harbours mining and indutrial projects of central/public sector undertakings after a thorough environmental impact assessment and review. Towards this end it would be necessary to build the capabilities for such detailed impact assessment techniques in the various State Governments/State Pollution Control Boards and also ensured that financial institutions looked into these aspects at the time of extending credit for such projects, Shri Ansari added. □□□

BOOK REVIEW

Management

RESEARCH METHODOLOGY IN MANAGEMENT By Dr. V.P. Michael. Published by Himalaya Publishing House, "Ramdoot", Dr. Bhalerao Marg, Girgaon, Bombay 400 004. First published: 1985. Pages 246. Price Rs. 90.00

The author has done a useful service for researchers in social sciences by giving a detailed description of the various issues involved in research study on any topic of the subject. Indeed, its utility is much more as many books of similar nature have so far neglected the area of management.

In fourteen chapters, the book deals adequately with issues like research process, hypothesis, statistical methods, quantitative techniques, research design and managerial analysis. The books starts off with a description of what research in management means. It has explained the various remifications of a case study and its analysis. The author has tried to demolish the myth that research in management is not of any practical significance because it is handicapped by many shortcomings which impel the decision-makers not to rely on it.

The author has lucidly explained the various quantitative techniques that are used in the analysis of data. A full chapter has been devoted to the discussion on linear programming. Likewise, important statistical methods employed in analysis have been briefly described for the benefit of researchers.

There is a chapter on research design which deals with some critical issues. A research design is a plan of action to be carried out in connection with a research project. It is, however, not an unbreakable rule, nor a hard-and-fast strategy. On the contrary, it is only a guideline for the researcher to enable him to keep track of his actions and to know that he is moving in the right direction in order to achieve his goal. The design may be a specific presentation of the various steps in the process of research.

Data collection and analysis constitute the main part of any reserch work. Here the book unfolds highly useful tips on how to go about these matters. Research in functional areas, say, like production, has been given a special treatment in the book. All in all, the book is yet another important addition to the existing literature on research in social sciences.

Navin Chandra Joshi

Children in arid zone

SOCIAL PROFILE OF CHILDREN IN ARID ZONE OF Rajasthan By K.K. Singh of National Institute of Public Cooperation and Child Development; Price Rs. 40.00; Paperback and Rs. 70.00; LIBRARY EDITION, PP. 260

The book-a Research Study, on Social Profile of Children in Arid Zone of Rajasthan covers four districts of Western Rajasthan i.e. Jaisalmer, Barmer, Jodhpur and Bikaner. It highlights the status of Children covering their health, nutrition, socialisation, education and recreation in 300 families spread over in 20 villages. It pinpoints several inadequacies in the development of the child and suggests ways and means to improve their social status. It has tried to identify the ecological characteristics having a hearing on children assessing the extent of developmental programmes especially for women and children, their impact on the status of children and exploring ways and means of combating the problems affecting them. The study shows the behaviour of socially backward castes betrades a lack of progressive outlook. These villages inherited a poorly developed economy which was further crippled through decades of neglect and feudal exploitation. The population of children especially male children was higher. The decline in the number of women and children is reported to be on account of their neglect. The scheduled caste and scheduled tribes have a tendency to have many children as compared to upper cates. Child mariage is very common. Most of the families having an income below Rs. 400/- per month could not provide good food even to expectant and nursing mothers.

The study suggest apart from education, health and hygiene care, more amenities for children and employment opportunities for elders to enable them and take better care of the families. The villages should be so developed as to become self-reliant, capable and willing to participate in the building of new and vibrant community.

The book is an interesting study particularly for those who are engaged in welfare work and for social scientists.

S.K. Nayyar

Islam

Muslim World—Islam Breaks Fresh Ground—By Tara Charan Rastogi; Ashish Publishing House 8/81, Punjabi Bagh, New Delhi-110 026; Page 200; Price Rs. 150/-

At a time when forces of fundamentalism have been raising their ugly heads in the West Asian region and in the sub-continent, the book under review by a savant, steeped deep not only in Islam but also in erudition, is a modest effort to clear the mist and miasma surrounding

this world's hoary religion. Though the blurb of the book blurts out that dynastic monarchy and dictatorial regime would run counter to Islamic spirit, happenings in Pakistan, Iran and Iraq simply defy this proposition.

Be that as it may, the book is a forcible exposition of the basic tenents governing world's oldest religion, whose reach was remarkably far and wide. Was it not pragmatic on the part of Prophet Muhammad, who did not claim himself to be an incarnation of the Supreme Being and who more often than not described himself as an ordinary man? While such ideals of Islam are undoubtedly the beacon of hope for the harassed humanity in times like these, the author's claim that obscurantist and fundamentalist forces would ultimately get defeated by the Islamic spirit is not borne out in practical life when we see in the name of religion the very same obnoxious forces are let loose in country after country that embraces this religion. Yet the unwritten letter of Islam as standing for democracy, social justice, eradication of penury and privation remains intact!

What is particularly noteworthy about this book is that the author has endeavoured to touch upon such new spinoffs like liberation theology, secularism and islam and muslims in Union of Socialist Soviet Republics, which is tantamount to breaking fresh grounds in the understanding of a religion. No doubt, the contribution of Islam to civilsation and culture of the world is enormous. At the same time, the enormity of autocratic rulers imposing their religious prejudicies among hapless citizens on the conquered nations must also be weighed, before any judicious evaluation of the contribution of Islam to humanity is undertaken. It cannot be an exaggeration to claim that the book is replete with over-zealous praise for a particular religious denomination, though the fact remains that the influence of other religions in the world for advancement of makind is too insistent to be ignored. The book would have made a compelling reading to dispassionate observers of mankind has its tone been moderate and claim modest The book would have also been bereft of petty printing errors which make a jarring perspective to an otherwise lucid prose of the author

G. Srinivasan

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of 7,500 kms is to be properly exploited not only to meet the protein reguirement of our non-vegetarial population but, also to gainfully utilise the throwaway trash fish for fertilisers, manures as well as for populty feed and other animal feed. In fact one may not know that poultry manure is so rich in soil enriching nutrients that it can really meet our requirement of both inorganic and organic manures for a number of years provided the scheme is taken up serionsly.

Development of the sector

The development of the food processing sector would call for appropriate human resources development to meet the demand for technicians, technologists, marketing people and food scientists. In rural areas when we think of cooperative processing units and want women and youth to be employed and farmers to know well about hybridation and latest techniques of increased production, this calls for an intensive training programme, starting from the primary producing areas right up to the large consumption centres. This again needs a massive effort. The banks and institutions in the cooperative and private sectors and state agricultural development corporation have been asked to structure programmes aimed at each target group. The existing training infrastructure will be assessed and a programme worked out to train the trainers and form a faculty for this.

Packaging, apart from the cold chain and refrigeration , is a major component and a high priority area in this programme. The Institute of Packaging and Design of Bombay is attached to the Ministry of Commerce. The Food Processing Industries Ministry would be interacting with the industry to study the availability pattern and the requirement in specialised packaging including a series of items starting from plastics to film packaging, laminated packagings, asceptic packaging through multi-layers, tins, containers etc. The plans would be evolved to develop capabilities to obtain technologies in this area There is a development council for the packaging industry in the Ministry of Industry An expert panel for packaging is being formed to closely link up with the existing units for packaging.

Regarding the demand for processing foods, it is worth mentioning that changes in the socio-economic profile of the Indian Society with increased income, higher literacy rate, changing food habits, increased employment of women and the change in the family structure, all are having a tremendous impact on the food habits of our population. Thus, there is an utmost need to gauge the felt needs of the society in order to prepare suitable food products

Export prospects

Many foreign countries have a large population of expatriate Indians who love traditional Indian foods If these food items are hygienically packaged, it can boost our export efforts Therefore, we believe in strengthening the indigenous products apart from the products which will appeal to the western palates. Once basic food products are developed then as far as possible the nutritional standard will also be preserved. Today unlike dehydrated food stuffs, we have, what is known as instant freeze dried technique--this technique does not disturb the molecular form of food stuffs and preserves the food as it is It is a tremendous break-through in food processing and we are able to encapsulate the natural aroma and texture of the original food item and maintain the nutritional value also while making no compromise on health standards. □□□

(Contd. from cover II)

Implementation of the project is being done in a multi-institutional mode with the DST as the implementing agency. The main collaborating organisations are IMD, ICAR, Department of Agriculture & Cooperation, Department of Telecommunication, Ministry of I&B, relevant Departments of State Governments, State Agricultural Universities, IITs and Universities having Atmospheric Science Department with facility of research.

A high power Project Implementation Committee under the Chairmanship of Dr. Vasant Gowariker, secretary DST, and with membership of heads of concerned Departments, has been constituted to overiew the implementation of the project. Estimated cost of the project upto the end of Eighth Plan is Rs. 84 crores, of which the supercomputer element is about Rs. 15 crores.

Weather data from all over the globe is provided to the supercomputer by IMD which is already connected to other national meteorological services through an efficient Global Meteorological Telecommunication System. Core team has been recruited and the scientists along with those from other institutions are being trained on the use of the system. Work has also commenced on the development of medium range weather forecasts system. 127 Agrometeorological Field Units (AMFUs) distributed in the country according to the agroclimatic zones are being established in a phased manner. The AMFUs are to function as a vehicle for the dissemination of agromet adivsories to the farming community. Fail-safe, state-of-art telecommunication network is being planned with the help of Department of Telecommunication to link the NCMRWF with various AMFUs.

NCMRWF will be a first-rate scientific reasearch and operational centre. Models in the Indian context pose a special challenge due to the unique nature of the monsoon phenomenon. Operationally viable mathematical models for specific use in the Indian context are expected to be developed in about five years. □□□

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Dr. Zakir Husain Lib. Shop

Achievements in agriculture

Agriculture today employs two-third of India's population and contributes one-third of the national income.

The growth in various sectors of agriculture since independence has been impressive; the production of foodgrains, oilseeds and sugarcane has risen three times, of fish four times, of eggs nine times, and milk production has more than doubled. Today the country produces about 70 million tonnes of foodgrains, 15 million tonnes of oilseeds, 210 million tonnes of sugarcane, and 48 million tonnes of milk.

The foodgrains production in 1988-89 (estimated at 170 million tonnes) rose by 24 per cent over the previous year's level and exceeded the target of 166.57 million tonnes. The Special Foodgrains Production Programme (SFPP), being implemented in 169 selected districts of the country since 1988-89, is expected to take the foodgrains production to 175 million tonnes this year (1989-90).

Indian agriculture's resilience was proved, when, despite the severest drought of the century in 1987-88 preceded by three years of scanty rainfall the foodgrain production touched 138.4 million tonnes and production of a number of crops reached new peaks.

Because of various steps taken by the Technology Mission on Oilseeds, the edible oil-oilseeds import in 1988-89 came down to Rs. 500 crores from about Rs. 1000 crores in the previous year. A Technology Mission on Dairy Development is also being launched to take the milk production from 48 million tonnes now to 70 million tonnes by 2000 AD.

A major factor for this speedy growth is expansion of the input-supply system. For example, the institutional credit to agriculture has grown from Rs. 24.2 crore in 1950-51 to more than Rs. 10,000 crore in 1988-89 and fertilizer consumption has risen from 69,000 tonnes to ten million tonnes. Similarly, use of plant protection chemicals, quality seed and implements and machinery has increased considerably. Area under irrigation has expanded, agricultural markets have develped, a range of post-harvest technologies are being adopted by the farmers.

To protect the farmers against unremunerative prices Government announces procurement/minimum support prices for 21 major agricultural commodition and makes an extensive arrangement through governmental/cooperative agencies for procurement and price support operations. □□□

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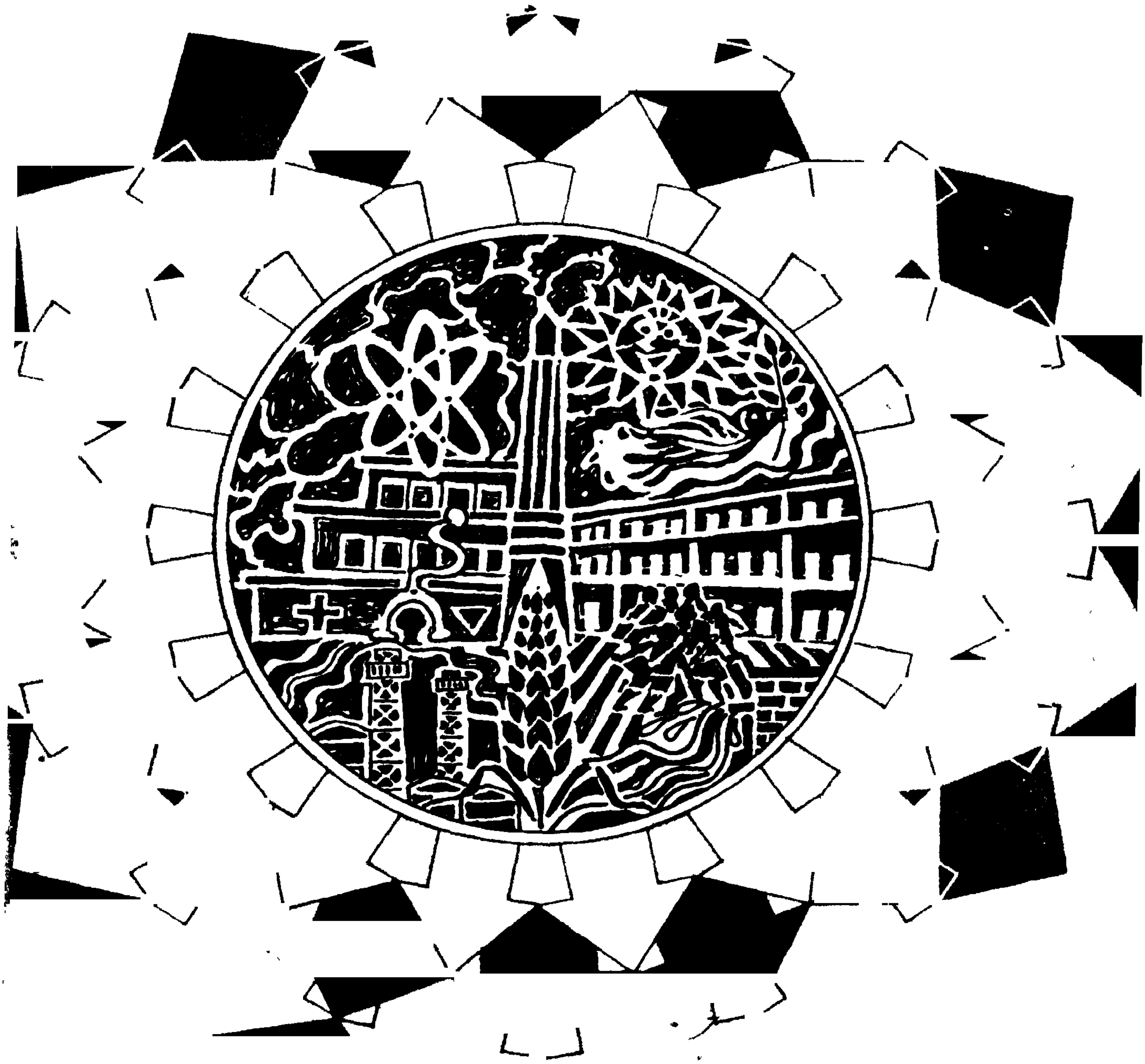
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Industrial Production up by 9.4 per cent in 1988-89

Industrial production during the first eight months of 1988-89 (April-November 1988) increased by 9.4 per cent, almost equal to the percentage of production achieved during the corresponding period of last year. As per the index of industrial production, the growth rates achieved in the industrial sector as a whole were 8.6 per cent in 1984-85, 9.7 per cent in 1985-86, 9.1 per cent in 1986-87 and 7.4 per cent in 1987-88. The lower rate of growth in 1987-88 was mainly due to the severe drought faced by the economy in that year. However, the decelaration in all three sectors i.e. mining, manufacturing and electricity was not of the order observed in earlier drought years. It indicates that the Indian industry has achieved considerable resilience.

This has been stated in the Annual Report of the Department of Industrial Development for 1988-89. The Report further says that sufficient capacities have been developed in most of the industries and a certain degree of competition is now visible in the market. The industry in many sectors, is, in fact, undergoing a structural transformation from being sellers market to a buyers' market.

According to the Report, in the manufacturing sector which accounts for a weight of 77.1 per cent in the index of industrial production, 15 out of 17 industry groups showed positive rates of growth. Notable among them are food products, jute, textiles, chemicals and chemical products, non-metallic mineral products, basic metals, non-electrical and electrical machinery and transport equipment. Among the important industries which recorded a higher growth in output during April-October, 1988 over the corresponding period in 1987, are fertilizers, aluminium, motorcycles, tractors, railway wagons, telephone instruments, streptomycin, auto ancillaries, steel castings, jute manufacturers, cement, saleable steel, sugar, boilers power transformers and machine tools. The composite index of 6 infrastructure industries comprising electricity, coal, saleable steel, crude petroleum, petroleum refinery products and cement, accounting for a weight of 28.8 per cent in the index of industrial production, recorded a rise of 7.9 per cent during April-January, 1988-89 over the corresponding period a year ago.

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Impact of liberalisation on industrial growth

Dr. I.A. Bilgrami

While the policy of liberalisation has boosted industrial production and growth rate in some manufacturing industries, in some sectors like the capital goods industries, industries producing mass consumption goods etc, there has been no visible upward trend. In this article an attempt has been made to study the impact of industrial liberalisation on selected economic areas. A pragmatic, courageous and result-oriented implementation of the policy is bound to speed up industrialisation, the author feels.

THE FRAMEWORK OF THE IDRA, 1951, the MRTP Act, 1969 etc has been guiding the development of industries in the country. The system of industrial licensing and controls was set up with the object of promoting industrialisation in accordance with the national priorities, in the context of the shortages of capital, foreign exchange resources and entrepreneurial talents. Regional dispersal of industries, promotion of labour-intensive small scale industries, prevention of concentration of economic power in a few hands, expansion and promotion of public sector in order to take over the commanding heights of the economy, were some of the important objectives of our post independence industrial policy.

Though the IDRA, 1951, imbibes in it the development aspect of industries, it is not a good augury that 'our licensing system amounts to a government of "don'ts" as against the Far Eastern economies which are primarily governments of "Dos"

Aware of its drawbacks, the Government has been liberalising and modifying its industrial policy from time to time. The liberalisation of industrial policy started in 1973 when a number of industries were thrown open for participation by large houses and companies covered under the MRTP and FER Acts, but strictly speaking, liberalisation in real sense started in 1975 when the licensing procedures were modified and additional capacities were recognised. It was in this year that the Government exempted the proposals for establishment of new undertakings, substantial expansion and manufacture of new articles by medium entrepreneurs from the licensing provisions of the IDRA in respect of a large number of industries. Between 1975 and 1979, licensing policy was further liberalised and licensing provisions applied to undertakings with investments of more than Rs 3 Crores instead of Rs. 1 Crore earlier. In 1980, the Government announced a new Industrial Policy with drastic changes by introducing more relaxations and liberalisations. After this policy announcement, the liberalisation process has taken an accelerated momentum with a series of far reaching policy liberalisations on a wide front-especially since 1985. Recently, (June 3, 1988), the Government has raised the exemption limit for licensing of industries intended to be established in the notified backward areas intended to be established in the notified backward areas from Rs. 5 Crores to Rs. 50 Crores (applicable to only non-MRTP and non - FERA companies); and on June 30, 1988, the Government's announcement freed as many as 69 MRTP companies from the MRTP Act provisions through which dominant undertakings will be free from the shackles of the industrial licensing policy as applicable to companies under the MRTP Act

Response

In order to study the impact of liberalisations, it is pertinent to see the response through the number of letter of intents and industrial licences issued before and after the liberalisations. Table I contains data pertaining to Letter of Intents and Industrial Licences issued during 1970-87.

From table I, it emerges that before the liberalisation process started in 1975, the number of letters of intent

and industrial licences was low at 438 and 363 respectively in 1970. In 1975, the number of industrial licences issued were the highest at 1027, while in the case of letter of intents the number touched the highest of 1457 during 1985. Though, many industries were exempted from the purview of licensing provisions, and liberalisations have been on a wider spectrum after 1975 (especially after 1985), but it is noticed that the responses in regard to number of letters of intents and industrial licences have been appreciable.

Table 1

Table showing Responses to Liberalisations since 1970

Year	*No. of letter of intents issued*	*No. of Industrial Licences issued*
1970	438	363
1975	962	1027
1980	946	475
1984	1064	905
1985	1457	985
1986	1130	618
1987	989	472

Source: Relevant Annual Reports, Ministry of Industry, Government of India, New Delhi
Economic Times, New Delhi, April 10, 1988 P 8

Another important indicator to see the impact of liberalisations is the response in the Capital Goods Imports and Foreign Collaboration Approvals Table II sets out data pertaining to Capital Goods Imports and Foreign Collaboration Approvals during 1970-1987

From table II it is gathered that the response of foreign collaboration and capital goods imports has been inconsistent during the period under review Though the system of according licences and foreign collaboration approvals has been considerably relaxed for the units coming under the scheme, the tempo was somewhat subdued in 1986 and 1987 when the number of Foreign Collaboration Approvals from 1024 in 1985 to 958 in 1988 and 858 in 1987 However, if we club together the three year figures (1985-87) and a comparison of it is made with the immediately preceding three years period (1982-84) a discernible change is visible bringing the total to 2003 discernible change is visible bringing the total to 2003 Foreign Collaboration Approvals during 1982-84 and 2835 during 1985-87. In the Capital Goods Industries, however, the trend is not encouraging so far the number of Capital Goods Import Approvals are concerned (1980-86).

Lieralisations seem to have created certain problems, where large imports of machinery have created demand problems for the existing units in the machinery manufacturing industry. There are criticisms that liberalisation has encouraged 'Screwdriver Technology' especially in electronic or electrical goods and it has been noticed that the import intensity of output is quite high in many such ventures.

Table II

Table showing Number of Capital Goods Imports Approvals and Foreign Collaboration Approvals during 1970-87.

Year	*No. of Capital Goods Approvals*	*No. of Foreign Collaboration Approvals*	
1970	N A	163	
1975	477	244	
1980	325	449	
1981	339	389	
1982	304	590	
1983	259	673	2003
1984	227	740	
1985	229	1024	
1986	193	958	2835
1987	N A	858	

Source : 1 Relevant Annual Reports, Ministry of Industry, Government of India, New Delhi
2. SBI Monthly Review, Bombay, May, 1988, p 239

Impact of liberalisation

It is claimed that the first phase of liberalisation left a good impact on the economy. To testify this fact, it is argued that the level of output of the manufacturing sector has increased by 18.6 per cent. Whereas it is observed that before the process of liberalisation was started in 1975, there was an annual rate of increase of 2.9 per cent in the manufacturing output, which rose to 4.9 per cent during 1975-84. Table III shows the annual rate of growth per cent in different periods of time before and after liberalisation.

Table III

Table showing average annual rate of growth per cent during liberalisation (1970-75) and post liberalisation (1975-84) periods

Period	*Annual Rate of Growth %*
Pre-Liberalisation	
1970-75	2.9
Post-Liberalisation.	
1975-80	4.8
1980-84	4.9
1975-84	4.85

Source : The Banker, New Delhi, July 1986, P 26

From the above table, it emerges that the policy of liberalisation has helped a great deal in raising the industrial production to the extent of 18.6 per cent by 1984. Had there been no liberalisation, the manufacturing sector would have grown at 2.9 per cent per annum and the index number of production in manufacturing sector would have been 149.2 instead of 177 in 1984.

The impact of liberalisation may also be studied with other parameters, like the growth rates of different types of manufacturing industries, viz., basic, capital goods, intermediate goods, consumer durables and consumer non-durables; and by comparing their performances inter se. Table IV draws a comparative account of the growth of these industries and makes a comparison of their growth rates in pre-liberalisation and post-liberalisation periods.

From the growth rates shown in table IV, it is evident that among the five selected industries in the manufacturing sector, the Capital Goods Industry

Table-IV

Table showing growth rates in selected manufacturing industries during 1970-84

Period	Basic Manufacturing	Capital Goods	Intermediate Goods	Consumer Durable Goods	Consumer non-durable Goods
	Annual Rate of Growth %				
Pre-Liberalisation					
1970-75	4 4	5.4	2.6	1 2	1.5
Post-Liberalisation					
1975-80	4 6	5.3	4 4	8.9	4 3
1980-84	9.0	5.0	3 7	3 9	3.9
1975-1984	6.7	5 2	4 1	6 6	4.1

Source: Op Cit., pp 27-28

recorded the highest rate of growth at 5.4 per cent during the pre-liberalisation period of 1970-75 followed by basic manufacturing industry at 4.4 per cent, intermediate goods industry at 2 6 per cent, non-durable consumer goods industry at 1.5 per cent and consumer durable goods industry at 1.2 per cent; whereas during the post-liberalisation period of 1975-84 basic manufacturing industries recorded an annual growth rate of 6 7 per cent followed by consumer durables at 6.6 per cent, capital goods 5.2 per cent, intermediate goods and non-durable consumer goods 4.1 per cent each. Highest growth rate of 9 per cent was achieved in the basic manufacturing industries during 1980-84, at 8.9 per cent in the consumer durable goods industry during 1975-80. This means that the first appreciable impact of liberalisation was on the growth of consumer durable goods industry in first phase of 1975-80, which was later swayed by basic manufacturing industry during 1980-84 by setting a record of 9 per cent annual growth rate.

Based on the above findings, it may be argued that the Basic Manufacturing Industries covering such important items as fertilizers, heavy inorganic chemicals, heavy organic chemicals, cement, iron & steel etc. would have grown at a slower pace in the absence of liberalisation measures It was due to liberalisation measures that the index number of production of this industry touched 222 in 1984.

In the Consumer durable Goods Industry are included passenger cars, motor-cycles, bicycles, electric fans, refrigerators, telephones, etc. This industry recorded a growth rate of only 1.2 per cent during 1970-75 (Pre-Liberalisation period); but during the post-liberalisation period (1975-84) its output increased at an annual average rate of 6.6 per cent and was remarkably high at 8.9 per cent during 1975-80. Without liberalisation, the index of production of this group of industry would have been 118.2 in 1984 instead of 189.2 in the same year. The Capital Goods Industry comprising internal combustion engines, hand tools, rail road equipments, electric motors etc. recorded a growth rate of 5.2 per cent during 1975-84 as compared to 5.4 per cent during 1970-75. This sector seems to have not benefitted much from liberalisation.

The Intermediate goods industry covering cotton spinning, jute, textiles, tyres and tubes, man-made fibres, dye stuffs, petroleum refinery products, dry-cells, nuts, bolts, etc., and the non-durable Consumer Goods Inustry covering all industrial products which are used for consumption and are not durables like sugar, tea, cotton, weaving, paper and paper boards, drugs and pharmaceuticals etc. have both closely responded positively to the liberalisation measures

Conclusion

In view of the foregoing analysis of data, it may be gued that the first phase of liberalisation has surely paid off well. It was due to liberalisation measures that the level of output of the manufacturing sector rose to 18.6 per cent in 1984 alone, and the gain in terms of value in the level of production was Rs 10,000 Crores In certain groups of manufacturing sector like Consumer durables, the gain in production was as much as 78.5 per cent in 1984. Since liberalisation measures have attempted to shift the focus back to the development aspect of the IDRA, greater reliance is being placed on the growth and initiative of the private sector as also on modern technology. However, liberalisation, so far, has helped to reduce the supply cosntraints, the demand constraints still persist and have been a major hurdle to indstrial growth of the country

While many thinkers, industrialists, and economists have welcomed liberalisation trends, critics feel that liberalisation has failed. In some industries like the Capital Goods Industries, large imports of machinery have created demand problems for the existing units in machine manufacturing industry— even their imports under the guise of modernisation of technology are considered wise ! Similarly, in the electronic or electrical goods, especially computers, washing machines etc. it is complained that liberalisation has encouraged "Screw Driver Techdnology" and the import intensity of output is very high in many such ventures. Although, a sharp increase in the rate of growth of industrial production is observed during 1987, a closer scrutiny of the data would prove that the high growth was limited to about a quarter of all industry groups in the index and the bulk of the industries have stagnated and in fact, the crucial Capital Goods Sector showed a decline. In addition to this, progress of industries producing mass consumption goods like cotton cloth, bicycles or capital goods have not been quite encouraging.

It is, however, a good augury that the movement towards liberalisation is basically well conceived and growth centred but it is suggested that their implementation should be pragmatic, courageous, consistent and result oriented. If any lacunae or deleterious effects are found or detected, corrective steps must be taken well in time. These will not only help in accelerating the speed of industrialisation in the country, but shall lead to an increase in investment intentions and would help in increasing the industrial production. □□□

Rural industrialisation

Dr. D.K. Kulshrestha

At the present growth rate the population of India will be above 82 crores by 1990 posing a serious employment problem to Indian economy. Rural industrialisation, says the author, is the solution. What calls for rural industrialisation ? How is it to be achieved ? What are the problems on the way? All these aspects are examined by the author. He is positive that rural industrialisation is the key to Indian's economic development.

WITH A POPULATION GROWTH RATE of 2.3 per cent per annum, the population of India will be above 82 crores by 1990 and over 50 per cent of it will be below the poverty line. Thus, during the years to come, especially during the 90s, Indian economy is likely to face the problem of employment of a very high magnitude. A major crisis will be in rural areas. Today 60 per cent of the working population consists of either agriculturists or agricultural labourers. There is unemployment for 4-6 months in a year in this sector for want of irrigation facilities, unfavourable weather and the lack of systematic farming. For this population, adequate employment opportunities will have to be explored. Rural industrialisation based on small and cottage yet village and modern industries has not only to play a significant role in this regard, but has also to do a great deal to transform the rural infrastructure. Thus, rural industrialisation is the kev for India's economic development.

Rural industrialisation becomes further of vital importance in view of the fact that the percentage share of agriculture to 'Gross Domestic Production and the percentage of working population engaged in this sector have been declining all over the world and Indian circumstances cannot deviate from this very trend. Besides, the average growth rate of various sectors of our economy shows that during the period for two decades from 1960 to 1980, agriculture sector has been stagnant being 1.9 per cent during the decades 1960-70 and 1970-80 out of the average growth rate of 3.4 per cent and 3.6 per cent respectively, while for industries sector it has come down from 5 4 per cent to 4.4 per cent and has gone up from 4.6 percent to 5.2 per cent for service sector respectively.

Thus, because of saturation in the agricultural sector, there is no scope to accoummodate additional manpower therein and it has further accelerated the problem of employment. Therefore, there is need to divert the additional manpower from agriculture to industry and service sectors. Since the employment opportunities in the service sector are limited, the development of industrial sector, specially in our rural segments is the only remedy. The growing attraction of women towards jobs, becuase of the disappearance of joint family system has further aggrevated the problem.

Besides, the rapid urban industrialisation is not the proper way to provide employment in developing countries like India becuase the capital output ratio in the organised sectors has gone up from 1.8 to 6.1 since independence. Therefore, the surplus

manpower is to be accommodated in cottage and rural industries or agriculture. The National Commission on Agriculture, 1976, has very rightly observed, "More industries must grow at a faster rate or there will be accelerated migration to urban areas leading to decay in both areas and social tensions will build up endangering the nation. Rural industrialisation seeks to use locally available resources and labour. Tiny/cottage and village industries are the best suited for rural areas."

The Indian scene

Historically, prior to independence development of cottage and village industries is discussed under three periods, viz

(i) prior to the beginning of the colonial rule, i e. before 1857, when cottage and village industries enjoyed an important position in India's rural economy,

(ii) from 1857 to 1925 during which period the cottage and village industries declined because of the unfavourable policy of the British; and

(iii) from 1925 to 1947 – the period during which efforts for their revival were made under the guidance and leadership of Mahatma Gandhi

From 1947 onwards a new era of development of rural industrialisation has emerged in which planned efforts are being made for their rapid development in the context of an all round economic development with active Government support and involvement.

In Independent India, due place has been assigned to the rural industrialisation in view of its vast employment potential at low capital base Since they do not require any elaborate infrastructure, rural industries can reach even the most remote and inaccessible areas in the country, where large industries cannot be set up.

Problems of rural industrialisation

There are a number of problems affecting the free and adequate development of rural industries. Some of these are:–

Sub-Standard Know-how

The production process in most of the cottage and village industries is still traditional. The research and development efforts in the industrial sector have been quite inadequate and whatever techniques have developed, their use is confined to the large sector. Consequently, the cost of production in the rural industries is comparatively higher and profitability lower. Besides, it is also time consuming In fact, the village artisans do not wish to leave their traditional way of working

In this connection it will be worthwhile to suggest that the rural workers should atleast be provided with modern tools and equipments to make their work easier and quicker, as the mechanisation of their work is neither possible nor advisable as it will lead to the large sector. For this purpose, the agencies engaged in the marketing and financing of equipments should let these artisans know the use of such modern tools and equipments and make them available at cheap rates.

Availability of raw material

Though the raw material generally grows in villages, it is not easily available to village industries. The organised sector has its full command over it through the dealers and merchants. With the collapse of the village community system, these artisans have lost their linkages and have to purchase their raw material from the nearby towns at higher prices as they cannot purchase in bulk.

For this purpose the state governments should fix the quote of raw material and make it available to village artisans at controlled rates through some agencies. Development Blocks may very well serve this purpose as they can have the estimate of raw material requirements of the artisans within their territories Besides, these blocks can take the help of the village panchayats for this purpose

Marketing problem

Marketing is perhaps is the weakest area in the development of this sector In the real sense, marketing is yet to be introduced in cottage and village industries Generally, they sell their products to the dealers at a very low margin and the dealers earn huge profits out of their dealings This is the reason, why these artisans of rural segments always remain hand to mouth

In fact, there is vast marketing potential for their products both in internal as well as overseas markets For this purpose, the Government should set up some agencies to purchase the products of this sector at reasonable price For the last few years, the purchases by the government departments for their own consumption from the small and cottage sector has been of great help If proper marketing and adequate remuneration are ensured, the village industries will develop both in quantity and quality

Lack of quality control

Total absence of quality consciousness and evolution of standards have affected the growth of industrialisation in our rural areas In this regard, the Indian Standards Institute or another such agency set up exclusively for the purpose of quality control of the products of this sector should take up this task

Lack of finance

The finance available to this sector are inadequate There is complete lack of institutional credit to rural industries. Though till 1982 cottage and village industries had a share of 41.8 per cent in total units of small scale industries, their share in credit was only 2.5 per cent. The setting up of Regional Rural Banks

and implementation of programmes like IRDP have proved a blessing. In this regard, it may be worthwhile to suggest that the procedure of granting loan, rigidness of security and repayment terms be liberalised so that even the illiterate and poor rural workers may take advantage of this facility.

Institutional infrastructure

In the absence of proper institutional growth neither the developmental nor the financial assistance can be possible to the cottage and village industries. For this purpose, only the cooperative form may be useful. Efforts should therefore, be made to make the "cooperative movement" a success

Diversified character

Rural industries differ in character having different levels of development technological knowhow and patterns of organisation Some are traditional, while others are modern. Even one industry includes a number of activities, e.g. leather includes carcass recovery, flaying, tanning, making of footwear, fancy-items, sports goods, garments, etc. Therefore, their problems are different from industry to industry and from unit to unit. Their perception of further development is different and the nature of assistance required also differs from industry to industry and from place to place which is possible only if this work is entrusted to the Development Blocks or to some independent agency

Strategy for rural industrialisation

Rural industries are broadly classified into two classes, viz.

(a) Traditional industries depending upon the skill and workmanship of the workers engaged, and.

(b) Non-traditional industries using modern technology.

Skill based traditional industries like pottery, basket making, leather, toys, rope, bidi, etc. are unable to provide even the minimum subsistence to households because they face a number of problems like availability of raw material, technological knowhow, tough competition from the large scale and organised sector etc.; while industries like blacksmithy, carpentry, handloom, etc. provide enough subsistence to their families On the other hand, modern industries like lamp shades, brush making, food processing, garments, etc. flourish and earn well. There is technical flexibility to meet out the changes in demand pattern in the non-traditional industries. Thus, they have scope for diversified development. Though the traditional industries account for about three-fourth of the total products of this sector, the non-traditional sector scores over traditional one in many ways, e.g.—

(i) They are generally run by educated unemployed;

(ii) These industrialists are economically better than the traditional ones;

(iii) They have more labour potential;

(iv) They use modern tools and equipments, power and improved technology;

(v) Quality of their products is comparatively better:

(vi) The products have better market acceptability; and

(vii) These industries are resource and demand based having large scope for expansion.

The non-traditional industries include sports goods, domestic electric goods, buttons, paper plates, baloons, brush manufacturing, hosiery, redymade garments, furniture, candle making, etc.

For an all round development of the rural economy, rice and dal mills, flour mills, sugar and khandsari, bakery straw boards, agricultural implements, pumpsets, agro service centres for repairs and servicing of agricultural machinery, etc. are necessary and these have bright prospects. Besides, there is need for technological development in traditional rural industries and for solving their problems of raw material, marketing etc. Thus, the strategy of rural industrialisation should include the development of non-traditional industries with modern technology and improvement of traditional ones. In fact, a climate should be developed for entrepreneurial development in our villages, for which the financing institutions like Regional Rural Banks, NABARD, etc should not only provide financial assistance but also provide technical and marketing assistance.

With the creation of a separate ministry for agro-industries at the Centre, a bright future awaits rural industrialisation If properly planned and implemented, the industries so developed in our rural segments, will usher in a new era of hope among rural masses a majority of whom live below the poverty line. □□□

Obituary

S.K. Dey Passes Away

In the death of Shri S.K. Dey we lost another giant belonging to the generation of our elder statesmen. An engineer by profession, Shri Dey joined the Central Cabinet as the first Community Development and Panchayati Raj minister, at the invitation of Prime Minister Jawaharlal Nehru. He held this post for ten years, but resigned when he found that the very concept of Panchayati Raj was becoming a controversial issue. Shri Dey was a social thinker in the true sense of the term and a prolific writer as well.

YOJANA deeply mourns the death of Shri S.K. DEY, who had been its regular contributor, its friend, philosopher and guide. Last year when we approached him to write the lead article for the Panchayati Raj Special Issue, he agreed, but added that it would be his last article for this journal. How prophetic of him ! Perhaps noble souls have a premonition of the nearing end.

Strategy to enhance spices production in India*

Dr. S.S. Khanna and Dr. M.P. Gupta

This article presents an extensive study of the production of various spices in India. The varying climatic conditions down the length and breadth of the country help the growth of almost all spices in India. However, their production and productivity leave room for improvement. What are the constraints on the way ? Besides pinpointing the various constraints, the authors also suggest future strategies for enhancing productivity production and export potential.

INDIA IS A LAND OF SPICES. There are a number of spices grown in India. As per the terminology of spices prepared by the Bureau of Indian Standards, there are 63 spices produced in the country, important among them, namely pepper, cardamom, ginger, turmeric originated in this country. Spices such as chilli, clove, nutmeg were introduced here by the invaders. A reference to spices is avaiable in old scriptures like Vedas and Ramayan. Spices like cardamom, cumin, dill, fennel and saffron were also reported to be used as early as 6000 B.C. In other parts of the world. The Bible particularly the Old Testament gives many instances on the use of spices. No country in the world grows as many kinds of spices as India. This country produces at present around 2 million tonnes of different spices valued at approximately Rs. 35,000 million and holds first position in the world. Because of the varying climates from tropical, sub-tropical to temperate; almost all spices are grown in this country. In all the 25 States and 7 Union Territories of India, one or more spices are grown in abundance

Pepper is called the king of spices and cardamom the queen of spices. Both these spices are believed to have originated in the Western Ghats of the country. Though these spices have been introduced in other countries long back to the extent of cultivation, India still holds the prime position. The other major spices such as ginger, turmeric and chillies are grown here to a large extent. If South India commands sole or near monopoly in the production of pepper, small cardamom, ginger and turmeric, there are a number of other spices which are contributed from North India in sizeable quantities, such as coriander. cumin, fennel and fenugreek.

Pepper production in India during 1987-88 was an all time record of 49,230 M T. and contributed about 25 to 30% of the world production. Southern-most State, Kerala accounts for over 96% of the production of pepper in India. The rest is contributed by the neighbouring States, Karnataka, Tamil Nadu and Union Territory of Pondicherry. Pepper cultivation has recently been taken up in Andhra Pradesh, Orissa, West Bengal, Assam, Tripura, Meghalaya and Andaman and Nicobar islands. The system of pepper cultivation followed in India is quite different from other countries as it is grown as a homestead crop with living tree as support.

During 1987-88, production of cardamom was only 3200 M.T. due to drought as against the normal production of 4000 M.T. Kerala, with 70% production is again the leading State for cardamom production in India. Karnataka and Tamil Nadu are the other

states producing it. Large cardamom otherwise called Ammomum cardamom is also grown in West Bengal and Sikkim located in the Eastern region. Production of large cardamom was 3250 M.T. in 1987-88.

Ginger is produced in most of the States in India. During 1987-88, production of ginger was 1,35,460 M.T. India ranks first among the ginger producing countries contributing more than 35% of the world production. Kerala is the largest producting State accounting for about 25% of the production in India. Other States are Meghalaya, Sikkim, Andhra Praesh, West Bengal, Uttar Pradesh and Mizoram.

There is no country in the world which produces as much turmeric as India. During 1987-88 production of turmeric in India was 2,94,900 MT, which is 90% of the world production. Kerala's production is 6200 MT, bulk of which is exported to other countries because of superior quality.

Though Chilli is an introduced crop, India is now the largest producer. Production was 5,74,600 MT in 1987-88. It is cultivated commercially in almost all the States in India. However, maximum supply is from Andhra Pradesh, sharing 45% of the country's production Maharashtra, Orissa, Karnataka, West Bengal, Tamil Nadu and Rajasthan are other leading chilli cultivating states of India.

Seed spices

India grows a number of varieties of *seed spices*. The important among them are *coriander, cumin, fennel, fenugreek, celery* and *dill seed*. Saffron, which is the costliest spice on earth is cultivated in the northern most State of the country-Jammu & Kashmir.

India has a prime position in the world production of *coriander*. About 2,43,000 MT of coriander was produced in India in 1987-88, contributing about 80% of the global supply. Rajasthan alone contributes 80% of the Indian production. Andhra Pradesh, Madhya Pradesh and Tamil Nadu are other important producing states. In the production of *cumin* also, India holds an important position. Nearly 60,000 MT of cumin was produced in 1985-86. About 90% of the total production is from Rajasthan and Gujarat. *Fennel* production was 20,000 MT in 1985-86 of which 90% was contributed by Gujarat alone. Production of *fenugreek* was 32,000 MT in 1986-87. Rajasthan shared 75% of this, followed by Gujarat (20%). *Celery* production was 5,000 MT in 1985-86. Punjab accounted for 95% of the production. Jammu & Kashmir alone contributed saffron production in India estimated at 8.5 MT in 1986-87. India's share is slightly over 10% of the global production of this commodity.

Tree origin spices

There are certain spices, namely, *clove, mace, nutmeg* which are tree origin and introduced in India by the East India Company. They are now grown in Kerala, Tamil Nadu, and Karnataka. Since production is not sufficient 3,000 to 4,000 MT of these spices are imported annually. Cinnamon, another spice of tree origin is also cultivated in Kerala to a great extent. The area and production of important spices cultivated in India for the last 4 years are given in Table 1.

Pepper

Though India has about 54 per cent of the total world area under pepper, its contribution to the total production is about 27 per cent, The per hectare yield of pepper in India is 240 kgs whereas the world's

Table 1

Area and production of important spices in India

Area in '000 Ha
Production in '000 MT

Commodities	1984-85 Area	1984-85 Production	1985-86 Area	1985-86 Production	1986-87 Area	1986-87 Production	1987-88 Area	1987-88 Production
1 Pepper	109 40	18 22	125.12	34 00	132 81	31 34	158 49	49 23
2 Cardamon (Small)	100 00	3 90	100 00	4 70	100 00	3 80	105 00	3 20
3. Cardamom (Large)	25 69	3.30	23 11	3 38	23 21	2 90	23 31	3.25
4. Chilli	794 80	630 50	904 10	877 40	834 60	629.20	738 00	574.60
5 Ginger	51 51	133 86	53 52	138 02	52.65	136 01	53 69	135 46
6 Turmeric	102 30	259.20	109 20	367 10	109.90	319 90	107 70	294.90
7. Coriander	388.30	119 90	360 30	107.40	395 20	182.50	484.50	243 00
8. Garlic	72.60	288.70	57 70	189.60	59 60	208.20	79.40	286 70
9. Cumin	102.40	54.00	NA	60.00	NA	NA	NA	NA
10 Celery	NA	4.00	NA	5 00	NA	NA	NA	NA
11 Fennel	16 39	20 00	NA	20.00	NA	NA	NA	NA
12 Fenugreek	44 65	55 00	30-96	32.00	NA	NA	NA	NA
13. Saffron *	3.84	8.84	3.57	8 64	3 66	8.80	NA	NA

* Expressed in 1000 Kg NA- Not Applicable

average is 400 kgs. The per hectare productivity in Thailand is as high as 4200 kgs. The production and productivity of pepper in India has not shown any remarkable improvement during the past several years except, however, during 1985-86 in which year there was a bumper production owing to favourable weather conditions. The National Research Centre for Spices at Calicut has recently taken up a programme for screening and selection of local varieties for high yield and other desirable characters. The Institute has already identified a few high yielding types. Programme for development of pepper has not been implemented in the three major growing states of Kerala, Karnataka, Tamil Nadu during the different plan priods. The major item of work undertaken in this regard was production and distribution of root cuttings of high yielding local and improved varieties. Efforts were also being made to propagate scientific cultivation practices particularly manuring and plant protection through field demonstration and extension support. The National Research Centre for Spices and Spices Board are the agencies doing research in pepper and also producing and distributing rooted cuttings.

The major constraints in the cultivation of pepper are poor genetic stock, losses due to pests and diseases, inadequate supply of planting materials of improved varieties, lack of proper manuring, non-adoption of other agronomic practices, limited scope for expansion of cultivation in the traditional areas and price fluctuation.

Considering the slow growth of pepper production in India contrary to the fast growth in other producing countries and taking into account the need to increase the country's share in the world trade of the commodity, there is an urgent need to increase the production and productivity within a timefarme. This has to be achieved by formulating and implementing comprehensive programme of short term and long term nature. The most important step to increase the production on short term basis is to enhance the productivity of the existing gardens through adoption of proper manuring, cultural practices, plant protection and replanting and rejuvenation of existing plantations

Ginger

The main ginger producing countries are India, Thailand, Japan, Bangladesh and Indonesia. India ranks first among these countries producing more than 45 per cent of the total world production of ginger. Cultivation of ginger is spread almost all over the country, the major States being Kerala, Meghalaya, Sikkim, West Bengal, Orissa, etc. Kerala accounts for 30 per cent of the area and 34 per cent of all-India production of ginger followed by Meghalaya which accounts for 10 per cent of area and 18 per cent of production. The production of ginger in India has shown substantial increase in recent years. It has increased from 29590 MTs in 1970-71 to 1,27,000 MTs in 1986-87. A large number of ginger cultivars have been found in India. Most of these varieties are known by the names of places where they are widely cultivated. No organised approach for production and development of ginger was taken up or implemented by any of the States. However, seed rhizomes of selected varieties were being supplied in small quantities by the National Research Centre for Spices. The main constraints in development of ginger cultivation are non-availability of quality planting materials, lack of improved varieties, non-availability of sufficient organic manures, lack of soil and water conservation measures, inadequate infrastructure for processing and marketing, price fluctuation and price support, lack of credit facilities etc.

The average yield of ginger in India is about 2400 Kg of dry ginger or its equivalent 10,000 to 20,000 kg of ginger. The most important step to increase productivity and production of ginger as also to reduce the cost of cultivation is to cover more area under superior varieties and to promote adoption of scientific cultivation practices. In order to promote production in short time, it is necessary that large scale multiplication and distribution of seeds is taken up by the nurseries in all the ginger growing states. It is also suggested that field demonstrations with complete package of practices should be organised on cultivators' fields for stepping up its production and productivity. About 50 per cent of the area under cultivation of ginger in India is located in areas where on account of the low temperature prevailing during the harvest seasons, making of dry ginger is also not possible by adopting the conventional method of sun dry. The Central Plantation Crops Institute has developed the small drier in which heat is generated by burning farm wastes. It is also found suitable to dry ginger.

By coordinating different programmes suggested above, about 3000 hectares can be brought under cultivation of high yielding varieties annually which is about 6 per cent of the total area under cultivation of the crop in the country. Thus, during the next 5 years about 25-30 per cent of the total area under cultivation can be brought under HYVs which would give an additional production to the tune of Rs. 30 crores per annum.

Turmeric

The major turmeric producing states in the country are Andhra Pradesh, Orissa, Tamil Nadu, Assam, Meghalaya, West Bengal and Karnataka. A number of varieties are recognised and they are known by different names in different places. These varieties vary widely in yield, duration, etc. The area and production vary from year to year depending upon the market price, planting season and also due to climatic vagaries. The only one step undertaken was cultivation and distribution of seed material to improve varieties on a very limited scale by some of the major turmeric growing states. The major constraints in increasing the production of turmeric

are lack of seed multiplication programme of improved varieties, non-adoption of improved package of practices, lack of sufficient irrigation facility and traditional method of on-farm processing.

The strategy for development of turmeric in India should include introduction of high yielding varieties into covered cultivation and adoption of scientific cultivation practices so as to enhance productivity and reduce the cost of production. The quality of dry turmeric which is extremely important for getting good price in the market is also to be improved. There is also need to increase area under cultivation by providing adequate irrigation facilities. It is also suggested that field demonstration should be laid in growers' field in all the major growing States. Farmers should also be provided with minikits of better germ plasm which would be vital for enhancing production and productivity of the crop in the country.

Chilli

Chillis are grown more or less in every State of India The life span of chilli plants may be a year or more Andhra Pradesh is the major producer of chillis in the country. Chillis are cultivated in India, Ethiopia, Thailand, Mexico, Pakistan, Japan, China, Indonesia, Hungary, Spain and Morocco, but India is the largest producer of chillis accounting for 50 per cent of area under cultivation. Bulk of the quantity of the chillis produced is used for domestic consumption and only 1-2 per cent is exported Andhra Pradesh is the leading chilli producing State in India, accounting for 33 per cent of India's production followed by Maharashtra (14%), Orissa (11%), Tamil Nadu (10%) and Kannataka (9%) The yield potential is also high in Andhra Pradesh compared to other States. The total production of chillis is in the range of 5-8 lakh tonnes per annum from the cultivated area of 8,78,000 ha Productivity level is very low, ranging from 300-500 kgs in different States

No developmental programme on chillis has been undertaken by the State, Central or other agencies. Even though some varieties have been identified/ evolved, their popularisation is very limited. The main constraints in the chilli production are non-availability of seeds of exportable varieties of chillis, non-adoption of improved package of practices, defective method of farm level processing and marketing support. In future, priority has to be given on the development of chillis of High Yielding Varieties and popularisation of scientific cultivation practices, which should be done so as to cover 80,000 hectares leading about 10 per cent of the present area under cultivation. This would enhance the production and productivity by 20-25 per cent on short term basis. A programme on distribution of minikits should also be undertaken. At present chillis are processed by sun drying of riped chillis. CFTRI has recently evolved a method of processing chillis. The method involves preserving the riped chillis before drying with a preservative solution (Dipsol) so as to enhance the shelf life retaining the colour. It is suggested to popularise this method among farmers by organising large scale training and demonstrations. If all the above mentioned programmes are followed, it is possible to increase the per hectare productivity from the present level of 950 kgs to about 2000 kgs per hectare by the end of the Eighth Plan.

Coriander

In India, coriander is mainly grown in the states of Andhra Pradesh, Rajasthan, Tamil Nadu, Madhya Pradesh, Karnataka, Uttar Pradesh, Bihar, Gujarat and Haryana. Of these, Andhra Pradesh and Rajasthan are the leading coriander producing states of India accounting for around 32 and 29 per cent respectively of the total production in the country The principal producers of this commercial crop are Morocco, Bangladesh, Pakistan, Soviet Union, Romania, Argentina and India The local variety called 'Dhania' is widely cultivated and gives the average yield of about 500-600 kg/ha Two new varieties, named, Gujarat coriander-1, Gujarat coriander-2 have been evolved to yield upto 1500 kg/ha Another variety, coriander RD-44 was released by Rajendra Agricultural University, Pusa and has an yield potential of around 1420 kg/ha.

Cumin

In India, Gujarat State is the largest producer of minor spices, particularly cumin. Although the area under cultivation in the State of Gujarat is about 45 per cent of the total area under cultivation in the country, the output is over 50 per cent of the country's production. Cumin grows in tropical and semi-tropical climates. Frost is the most injurious and limiting factor for the cultivation Cumin is cultivated in India, Iran, China, UAR, Sweden, Turkey, Cyprus, Egypt and Morocco in which India is one of the major producing countries Before 1950 only one variety of cumin was grown in the country, viz. cumin local which gave an average yield of 400 kgs/ha. Subsequently, 2 improved varieties, Cumin S-404 and Cumin-MC-43 were released which yield about 29 per cent more than the local variety Recently, another important variety Gujarat Cumin-1 has been released and it yields upto 700 kgs/ha.

Fennel

Gujarat is again the major fennel producing state. Apart from Gujarat, this spice is grown in the States of Rajasthan and Uttar Pradesh. Fennel is grown in good soil, but best grown in rich well drained black loamy and sandy soils with good drainage In India, fennel is treated as a cold weather crop. Other countries where fennel is grown are Lebanon, Egypt and China. Gujarat is the leading fennel producing State accounting for about 90 per cent of the country's production. It is also interesting to note that the yield potential is very high in Gujarat compared to other States. Earlier, 2 improved varieties, viz. fennel S-7-9 and fennel EF-35 were being cultivated which gave the average yield of around 1650 kg/ha. Subsequently,

an improved variety named Gujarat fennel-1 was released which yields upto 2000 kgs/ha.

Fenugreek

In India, fenugreek is mainly grown in the States of Rajasthan, Gujarat, Uttar Pradesh. Of these, Rajasthan is the leading fenugreek producing state accounting for about 75 per cent of the total production. Gujarat is the next important state which accounts for 20 per cent of the total production. Apart from India, France, Labanon, Argentina, Egypt, U.S.A. and Morocco are the principal producers of fenugreek seed. Only local varieties of fenugreek seeds are being cultivated in all the growing states which include local methi or desi methi with an average yield of 1500-1900 kgs/ha and Kasuri methi with an average yield of 750 kgs/ha. Improved varieties of fenugreek are yet to be released.

Celery

In India, celery is mainly grown in the State of Uttar Pradesh. It is grown well in heavy and well-manured soil under mild climatic conditions. France and United States are other countries where this crop is grown. Out of an estimated total world production of 6,000 metric tonnes, India produced about 4500 metric tonnes. The average yield/ha is 995 kgs.

Saffron

In India, saffron is mainly cultivated in the state of Jammu & Kashmir. It is cultivated on a commercial scale in Spain, India, France, Greece, Nigeria, Hungary, Germany and Australia. Spain is the world's largest producer of saffron accounting for 90 per cent of world production. Results of trial cultivation of saffron in U.P. and Himachal Pradesh were not found to be encouraging.

The main constraints in the development of the above mentioned spices are non-availability of quality seeds of improved varieties. Although a number of High Yielding Varieties have been evolved, they have yet to return commercial cultivation. The spices, in general, are grown in most traditional way without following the scientific method. It is, therefore, necessary to implement programmes that would enhance production and productivity of these crops. Organised efforts for the development of these crops are not taken up by the State Governments at present. The extension machinery has to be properly strengthened and trained. Concerted efforts have to be made to educate the farmers with full back up of the input supply system, processing and marketing of the produce.

Export

India has been in the international trade of pepper since 4000 B.C. The movement of spices in the past was through the land routes, later on, with the help of sailing vessels and cargo ships and recently by air too. The trade which developed initially with Egypt and other Arabian countries oriented towards the West, with the discovery of sea route to India through Cape of Good Hope by the European explorers. To start with, the trade was mostly in pepper, cumin and cardamom which later on, covered a number of spices like ginger, turmeric, cumin, fennel, fenugreek, coriander and others.

Of the global trade of spices estimated around 350000 MT in 1985, India's share was 20%. In monetary terms, export from India was of the order of Rs. 2825 million. There is no country in the world which has exported so much quantity of spices earning substantial foreign exchange like India but the potential is enormous. Well organised and systematic approach is really called for to enhance the export of spices to different countries of the world.

Export of spices has steadily gone up from around 20,000 MT (pepper alone 15641 MT) in 1950-51 to 45,563 MT in 1960-61, to 47,906 MT in 1970-71 and further to 92,538 MT in 1980-81. The volume of trade was 70, 279 MT in 1987-88 but in terms of value it was the highest in the history of spices trade in India at Rs. 2980.8 million. The trend of India's export of spices in quantity and value since 1960-61 is mentioned in Table-2

Table 2

Trend in the export of spices from India

Years	Quantity in MT	Value in Rs. '000
1960-61	45653	163960
1961-62	63733	175203
1962-63	48340	133730
1963-64	51179	152793
1964-65	52855	165465
1965-66	62463	230544
1966-67	51714	278191
1967-68	52195	271702
1968-69	51880	250441
1969-70	43975	344798
1970-71	47906	388200
1971-72	67866	388047
1972-73	51662	305612
1973-74	62793	556012
1974-75	54306	625925
1975-76	61952	727248
1976-77	60957	758810
1977-78	81228	1418849
1978-79	104844	1549285
1979-80	114959	1550765
1980-81	92538	1170559
1981-82	88375	925101
1982-83	76117	988541
1983-84	85835	1116622
1984-85	89155	2090224
1985-86	74501	2825308
1986-87	82825	2819[illegible]7
1987-88	70279	2980803

Though precise information about total world production of spices and spice products is not available their present international trade is estimated to be around 4.00 lakh MT in volume and about 1.3 million U.S. dollars in value (one $ is equal to Rs. 15.50) on an average per annum.

As far as India is concerned, the annual production of spices is roughly 20.00 lakhs MT valued at Rs.

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Travail of industrial sickness

Dr. V.K. Agarwal

The increasing pressure of industrial sickness is a threat to Indian economy, says the author. Herein, the author analyses the causes behind this growing malady in the industrial sector and suggests possible preventive measures for a long term and realistic solution to the problem.

THE TERM 'INDUSTRIAL SICKNESS' HAS BEEN defined in a number of ways and its concept lacks uniformity. A sick industrial unit may be defined as sick when it fails to generate surplus on a continuous basis and depends on frequent infusion of external funds for its survival. A unit is considered sick if it has sustained losses continuously over a period of at least two years and the accumulated loss (as per the balance sheet) exceeds 50% of the paid-up capital and reserves of the unit concerned. According to the sick Industrial Compaines (Special Provision) Act, 1985, the term Industrial Sickness has been defined as 'An Indsutrial company (being a company registered for not less than seven years) which has at the end of any financial year accumulated losses equal to or exceeding its entire net-worth and has also suffered cash losses in such financial year, and the financial year immdiately preceeding such financial year'

Industrial sickness-causes

There are a number of causes responsible for industrial sickness and they may be divided into two main categories: internal and external. The interal causes are :

(a) failure to introduce proper financial control-devices and cost control methods. (b) lack of proper maintenance and non-replacement of old and out-moded machinery. (c) managerial deficiency. (d) overestimation of demand (e) underestimation of capital cost (f) delay in implementing the projects and schemes resulting in cost acceleration etc.

The external causes of industrial sickness are: (a) decline in public sector investment. (b) shortage of finances and working capital and (c) surplus labour (d) unwholesome inudustial relations. (e) recession in demand, (f) inadequate availability of essential inputs like raw materials, power and transport etc and (g) state policy relating to production, pricing, distribution and control. The other factors causing industrial sickness are. obsolescence of the articles produced, lack of organised marketing devices; entry of large scale enterprises into the field and product; improper/wrong choice of product mix and poor collection of debtors and receivable.

In the country the problem of industrial sickness has been increasing by leaps and bounds To explain statistically, at the end of December 1986, the number of sick units in the portfolio of scheduled commercial banks stood at 1,47,740 involving an outstanding bank credit of Rs 4874 crores. The figures relating to sick industrial units (large, medium and small scale) and outstanding bank credit with sick units are shown in table I&II

A threat to economy

The increasing pressure of industrial sickness has been causing a serious threat to Indian economy. As at the end of June 1987, the total number of sick units in the portfolio of scheduled commercial banks stood at 1,59, 938 involving an outstanding bank credit of about Rs 5738 crores. The total number of non-small scale units covered under the Sick Industrial Companies (Special Provisions) Act 1985 (SICA) stood at 655 and accounted for outstanding credit of Rs. 1515 crores at the end of June 1987. The number of sick units in the SSI sector is overwhelming and stood at 1, 58, 226 with an outstanding bank credit of Rs. 1542 crores at the end of June 1987. (Table III & IV).

Of the 1057 non-SSI sick industrial units, banks had taken decision about viability on otherwise in respect of 862 units as at the end of June 1987. Out these, 341 units were found to be viable and their outstanding bank credit amounted to Rs. 180 crores. There 521 units with outstanding amount of Rs. 999.29 crores

Table I

Industrial Sickness: Number of Sick Units with Annual Percentage Growth.

No. of Sick units at the end of	*Large Units*	*Annual Percentage Growth*	*Medium Units.*	*Annual Percentage Growth*	*Small Units*	*Annual Percentage Growth*	*Total Units*	*Annual Percentage Growth.*
Dec-80	409		982		23149		24540	
Dec-81	422	3.18	984	0.20	25342	9.47	26748	8.99
Dec-82	444	5.21	1178	18.5	58551	131.04	60173	124.86
Dec-83	491	10.59	1256	6.6	78363	33.84	80110	33.13
Dec-84	545	11.00	1287	2.5	91450	16.70	93282	16.44
Dec-85	637	16.88	1186	7.7	117783	28.79	119606	28.22
Dec-86	714	12.09	1250	5.4	145776	23 77	147740	23.52

Table 2

Outstanding Bank Credit With Sick Units

Amount Outstanding at the end of	*Large Units*	*Annual Percentage Growth*	*Medium Units.*	*Annual Percentage Growth*	*Small Units*	*Annual Percentage Growth*	*Total Units*	*Annual Percentage Growth*
Dec-80	1324.47		178 42		305 77		1808 66	
Dec-81	1478.84	11 65	187.63	5.16	359.07	17 43	2025 54	11 99
Dec-82	1790-60	21 11	225 76	20.32	568 97	58 46	2585 33	27.64
Dec-83	2014 33	12.51	357 97	58.56	728 99	28 12	3101 29	19 96
Dec-84	2330 12	15 69	428-53	19 71	879 62	20.67	3638.39	17.32
Dec-85	2980-24	27.90	220 02	48.66	1070-67	21 71	4270.93	17 38
Dec-86	3287-02	10 30	281.37	27 88	1306 10	21 99	4874 49	14 14

which were considered by banks as non-viable as at the end of June 1987, and banks have yet to decide about viability of the remaining 195 units with outstanding credit of Rs. 500.87 crores. Besides, banks have put 233 units with outstanding credit of Rs. 847.55 crores under nursing programme.

Of the 655 non-SSI weak industrial units banks had taken decisions about viability or otherwise in respect of 481 units as at the end of June 1987. Out of these 367 units were found to be viable and their outstanding bank credit amounted to Rs. 673.96 crores. There were 219 units with outstanding bank credit of Rs. 335.11 crores which were considered by bank as non-viable as at the end of June 1987, and banks have yet to decide about viability of the remaining 174 units with outstanding credit of Rs. 506.12 crores. Further more, banks have put 148 units with outstanding bank credit of Rs. 421.35 crores under nursing programme.

In the small scale sector 20,41,161 (Provisional) units have been provided with bank credit amounting to Rs. 9817.80 crores (Provisional) as at the end of June 1987. Of these, 1,58,226 units (7.8 per cent) have been found to be sick with outstanding bank credit of Rs. 1542.25 crores (15.7 per cent). Of the total sick SSI units 13, 062 units (7.6 per cent) with outstanding Bank credit of Rs. 342.74 crores (22.2 per cent were considered by banks as potentially viable. A total of 4980 units with outstanding credit amounting to Rs. 232.96 crores were reported to be put under nursing programme by the financing banks as at the end of June 1987.

The Board of Industrial and Financial Reconstruction (BIFR), set up under the sick Industrial Compaines (Special Provisions) Act, 1985 become operational on 15th May 1987. Industrial companies whose net-worth has been eroded completely and those which have networth eroded by 50 per cent or more are required to make a reference to the BIFR under sections 15 and 23 of the Act, respectively. While references received under Section 15 are required to be inquired into, there is no such requirement in respect of references received under Section 23. Since its inception, BIFR has received 880 references under section 15 and 346 references under section 23 of the Act upto 31-12-88. Out of the total 880 references received under (Section 15) 187 were rejected after initial scrutiny. 75 references were under scrutiny for want to complete information and 618 references were registered. In 210 cases BIFR appointed an operating agency. while in 29 cases BIFR has formed the prima facie opinion that company be wound up and issued notices inviting comments. In another 16 cases BIFR has recommended for winding up to the concerned High Court. BIFR has sanctioned 16 schemes which include merger change of management and leasing.

Steps taken by government

To tackle the problem of industrial sickness, the

Table 3

Industrial Sickness : End of June, 1987

Category	*No. of Units.*	*Amount Outstanding (Rs. crores)*
1. SSI Sick units	1,58,226	1542 25
2. Non-SSI Sick Units (as defined in SICA 1985)	1,057	2680.44
3. Non-SSI weak units (Not covered under SICA)	655	1515 19
Total	**1,59,938**	**5737.88**

Table 4

Viability status of sick/Weak Units as at the end of June, 1987

Category	*No. of Units.*	*Amount Outstanding Bank Credits (Rs. crores)*
1	2	3
I. Non SSI Sick Units (as defined in SICA 1985)		
Viable	341	1180.28
	(233)	(647 55)
Non-Viable	521	999 29
Viability not decided	195	500.87
Sub total (I)	1057	2680 44
II Non-SSI Weak Units (non covered under SICA 1985) Viable	367	673 96
	(148)	(421 35)
Non-Viable	219	335 11
Viablity not decides	174	506 12
Sub Total (II)	655	1515 19
III. SSI Sick units		
Viable	13062	342 74
	(4980)	(232.96)
Non-viable	139346	1059 91
Viablity not decided	6818	139 60
	158226	1542 25
Grand Total (I+II+III)	1,59,938	5737.88

Note: Figures in brackets relate to sick/Weak units put under nursing programme.

Government has taken a number of steps, and specific mention may be made of :—

(1) The Reserve Bank of India has emphasised an effective co-ordination between the commercial banks and the term lending institutions in the formulation and implementation of rehabilitation package and the revival programme.

(2) For better monitoring and for fcilitating preventive measures, the Reserve Bank of India has introduced a 'health code system' to categorise various borrowal accounts according to the quality of accounts.

(3) The Industrial Reconstruction Bank of India has also initiated various steps for containing the growth of industrial sickness and helping in the industrial revival of viable and potential units.

(4) For the modernisation in the textiles and Jute Sector, which accounts for a major share of industrial sickness Government set up two funds, viz the 'Textile Modernisation Fund and the Jute Modernisation Fund'. These funds would be helpful in improving the health conditions of textile units and Jute mills of the economy.

(5) With a view to covering the categories of industrial units which do not come under the purview of the sick Industrial Companies (Special Provision) Act, 1985, the Reserve Bank of India has advised the Banks to take the necessary remedial measures in respect of industrial units at the stage of 50% measures in of their networth.

Prevention of sickness

The existence of sick industrial units is not only a problem to the owners and the management of the concerns but they are always a burden on the entire economy and the society as a whole. Industrial sickness have become an issue of the time and needs planned and effective steps on the part of all the concerned for finding out a long term solution to the problem. The following preventive measures may provide a long term and realistic solution to the problem:

(1) The banks and financial institutions should not keep their activity limited to the financing of industrial units but should come forward to take effective steps to diagnose sickness in industrial units at the initial stage.

(2) Most of the sick industrial units are related to the small scale sector because this is the most unorganised sector with scanty financial resources, little technical know-how and poor managerial efficiency. A number of small scale units are born sick, live sick and die sick. Steps should be taken for containing sickness in small scale units through entrepreneurial training, counselling and guidance.

(3) There should be a separate and full fledged, deparment known as 'Department of Rehabilitation of sick units' under the direct charge of the Industry Ministry. This Department should concentrate on diagnosing sick units; containing sickness at the initial stage and rehabiliating potentially viable sick units by rendering every possible economic, administrative, technological and infrastructural help.

(4) The Government with the help of the R.B.I. should lay down the criteria for dealing with the sick industrial units so that they may

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Small is beautiful

N.Raghunathan

Small scale Industries have played an important role in our economy by transforming individual initiatives of small scale units into a peoples movement with the result that the process of industrialisation is no longer confined to selected areas of the country; its impact is rather visible everywhere. In this article the author discusses the role and performance of Small Scale Industries in the national economy.

IT IS NOW A WELL RECOGNISED FACT that the path of economic development of the developing countries and the course taken by the advanced countries in the process of their own development, decades ago, may not necessarily be identical. The goals, strategies and instruments of economic development of a developing country have to be designed and fashioned with due regard to circumstances obtaining in a particular country and the ethos of the people involved. That a blind replication of something which happened somewhere will not necessarily be the only and the best solution in our situation was recognised by our illustrious leaders who fought for our freedom and who were instrumental in shaping its future destiny through the means of a new Constitution.

Industrial policy resolutions

Recognising that India lived in villages and that the ancient Indian economic polity while it excelled in international trade and commerce was also a singular example of a self-sufficient economy and further that our people have a rich heritage of skill and craftsmanship, the Industrial Policy Resolution of 1948 and the successive resolutions assigned to the development of village and the small scale sector, a prime place in the industrial development of this country. The 1948 resolution saw the small scale industries as being particularly suited for better utilisation of local resources and for achievement of local self-sufficiency in consumer goods. The 1956 resolution stressed the role of the small scale industries in the development of the national economy. The Policy Resolution stated, "In relation to some of the problems that need urgent solutions, they offer some distinct advantages. They provide immediate large scale employment. They offer a method of ensuring a more equitable mobilisation of resources of capital and skill which might otherwise remain unutilised. Some of the problems that unplanned urbanisation tends to create will be avoided by the establishment of small centres of industrial production all over the country. The 1980 Policy Statement specified certain measures for the support and development of the small scale sector and enunciated the concept of economic federalism in which there would be close organic linkages between the large and the small sectors and which would generate a large number of ancillary and small scale units.

The development of the small scale industries sector in the last 40 years since we attained our freedom has indeed been significant. Its performance has been very close to the role envisaged by the Industrial Policy Resolutions. What began as decentralised individual initiatives at the unit level has now blossomed into a large scale peoples movement.

Growth dimensions

The small scale sector today is estimated, to produce goods and services amounting to Rs. 85,000 crores at current prices which constitutes 35 per cent of the country's industrial production. About 5,500 items are manufactured ranging from a very simple single-process product ot a highly complicated and expensive high-tech product.

The contribution of the small scale sector to India's exports has also grown in the past few years. In 1986-87, the small scale sector directly accounted for 30 per

cent of the total exports. What is significant is that in the case of certain commodities like sports goods, processed tobacco, sanitary castings, agarbattis and a number of plastic goods, the entire exports from India are accounted for by the small scale sector. The exports of marine products, processed foods, leather goods, ready made garments are dominated by the small scale sector apart from having a considerable share in the export of engineering goods. The value of non-traditional exports from the small scale sector was ten times that of exports of traditional goods from this sector.

There are 1.6 million SSI units and in terms of employment , this sector provides self employment and wage employment to about 10 million persons. The small scale movement has converted more than one generation of Indians into entrepreneurs and industrialists. A number of people who began as entrepreneurs in the small scale sector has now become medium scale and large scale industrialists. The transformation of sights, the overwhelming spirit and desire of wanting to run an enterprise or industry among a large number of people, brought about by the small scale sector is a significant factor which is vital to sustain the indutrial climate and progress in the country.

There is another transformation which the small scale sector is bringing out. And that is the emergence of Women entrepreneurs. More and more women are becoming entrepreneurs and many of them have shown by their example that they are more than a match to men. Thus the small scale sector is adding a new dimension to the place of women in our society in general and in our economic system in particular.

The growth and development of the small scale sector has another significance. It is commonly assumed that the state-of-art technology is more suitable for advanced countries from where it normally originates. And when the matter comes to transfer of technology to developing countries phraseologies like "intermediate technology" and "appropriate technology" are commonly used. While there may be an element of truth and sincerity in these phrases, our small scale sector has amply shown that given the opportunity and wherewithal, it can easily absorb the state-of-art technology in its area of activity.

Emerging trends

It may be recalled that the Seventh Plan had clearly stated that its principal objectives are food, work and productivity. The SSI sector is closely concerned with work and productivity. As per the estimates available during the seventh plan, the number of SSI units has grown at the average rate of 8.6 per cent per annum. Investment has gone up from Rs. 9,800 crores in 1984-85 to Rs. 15,000 crores in 1987-88. The production is estimated to have grown at an averge rate of over 12 per cent per year. An average growth rate of 6 per cent in terms of generation of employment has been maintained. In terms of exports to sales ratio, the small scale is shoulder to shoulder with the large scale manufacturers. Today small-scale industries stand established in practically every part of the country.

Issues before SSI

While achievements of the small scale sector are undoubtedly creditable, it is not that everything is ideal or for that matter, all is well with the small scale sector. There are a number of issues which concern this sector like the structural, conceptual and operational ones.

The first issue relates to the structure of the small scale industry. The definition of a small scale industry is based on the amount of investment in plant and machinery. There are no restrictive conditions relating to turnover or employment. In the beginning, the investment in plant and machinery was limited to Rs. 5 lakhs per unit. It has been enhanced from time to time and now stands at Rs 35 lakhs per unit. The basic idea underlying the enhancement has been to keep pace with rise in prices of plant and machinery and to enable the units to induct modern technology and machines.

A survey conducted few years ago shows that the vast majority of the small scale units in the country are in the comparatively lower turnover group and it is only a small percentage which is in high turnover area. There are however instances of low investment and abnormally high turnover, which is particularly true in industries relating to food products, beverages, textile, wood products, rubber plastic, electrical goods and metal products.

The question, therefore is what could be the ideal structure of the small scale industries in the counry, having regard to the given conditions on the one hand, and having regard to the two objectives on the other, viz. optimalisation of productivity as reflected by a low capital output ratio and a high rate of employment generation

The policy relating to small scale sector is subject to certain criticisms. Firstly, the policy of reservation of items for exclusive manufacture in the small scale sector has been a major barrier for growth and competition. It has brought about inefficiency in production line, leading to poor quality of products. Secondly, the prescription of low ceiling on investment in plant and machinery has prevented entry of sophisticated technology and induction of modern technology. This has encouraged the tendency to continue to remain small, proliferate and grow horizontally maintaining low investment rather than growing vertically with a deeper capital base.

It is equally important to remember that the policy of reservation is not an end in itself but a means to an end. The end is diffusion, deconcentration and

decentralisation of industrial production. Therefore active encouragement of the small scale sector with its inherent advantages of low cost employment potential and low capital investment becomes absolutely inescapable.

Even so, the Government has been adopting a pragmatic policy of reviewing the items that have been reserved, and whenever it has been found that a particular product is no longer within the technological or investment competence of the small scale sector, the Government has not hesitated to dereserve or change the nomenclature of the reserved items. This has had a considerable amount of elasticity in operational terms while providing adequate safegaurds to the interest of the small scale sector.

In so far as investment levels are concerned, 95 per cent of the units are having investments below Rs. 5 lakhs. This means that there is considerable scope for these units to grow even within the present limits of investment. It is recognised that there could be a problem in the case of units which are at or near the maximum levels of investment prescribed and who, because of the investment limit, are discouraged from making further investments which could bring about an induction of higher technology, better productivity and quality.

Even though the number of these units is miniscule, an appropriate way needs to be found which would permit them to induct modernisation, technological upgradation, improve quality and productivity while remaining within the small scale sector, if not permanently, at least for a specified period even after higher levels of investment. Apart from raising the capability of the small scale sector, this would also set in motion the process of graduation of a large number of small scale units into medium scale, a process which is somewhat rather slow so far.

Operational problems

Availability of raw materials at appropriate prices, availability of finance, easy accessibility to markets and full exploitation of the potential are some of the problems which the small scale sector units are facing. The phenomenon of growing sickness in the sector is also another problem. The Government has introduced a number of measures to assist the small scale sector in its operations.

Even with all these problems, it must be said to the credit of the small scale sector that in its performance during the last four decades, the sector had shown a high degree of resilience, innovation and a capacity to overcome obstacles. Next to the irrigated farm sector, the small scale industry including business establishments and services sector alone holds the promise of generation of employment, especially self-employment during the eighth plan. Self employment, apart from providing the economic sustenance to the individual in the society, also provides him with a sense of pride, dignity and achievement which is quite distinct from wage employment.

There are ample opportunities for the young men and women of India in the small scale sector where they can rise to meet the requirement of the various sections of the society and to make their own contribution to the growth and development of the national economy. The field of exports too holds promise of considerable opportunities, and as pointed out by the UNIDO report for 1987, the developing countries can successfully exploit the area of petro-chemicals, iron & steel, electrical and non-electrical machinery and scientific instruments by export to developed countries. Export of technical services of software through satellite, especially from India, which has a highly qualified technical manpower is also eminently feasible.

Cottage and Small Scale Industries are of very special importance in India. If we lack capital, we do not lack manpower. We msut use this manpower both to add to the wealth of the country and to reduce unemployment. It is important however for both cottage and small scale industries to use the latest technologies and to be coordinated with large scale industry' These words of Jawaharlal Nehru are as true today as they were then. □□□

(Courtesy : PIB)

Foodgrains production target

A strategy for achieving a foodgrains production target of atleast 175 million tonnes by the end of the Seventh Plan was worked out by an inter-Ministerial Task Force under the Planning Commission in March, 1988. This programme is being implemented during 1988-89 and 1989-90 also in 169 selected districts in 14 States. The strategy envisaged the identifcation and removal of constraints in the short term which would enable the realisation of the potential for increased foodgrains production in specific areas. The major components of this programme are.

(i) Increased fertiliser use by 20 kilograms of nutrients per hectare.
(ii) Use of improved high yielding variety seeds.
(iii) Better management of weeds and timely control of pests and diseases.
(iv) Harnessing groundwater through tubewells, completing on-farm development works in command areas and completing the near completion irrigation projects and efficient use of the stored water.
(v) Enhancement of procurement activities through effective price support operations.
(vi) Increased flow of short-term and long-term credit. The Central Government provided financial assistance to the State Governments for implementing the Special Foodgrains Production Programme. □□□

Oscillations in Indian sugar industry

Dr. D. Gopalakrishna Murthy and J.V.S.R.S. Prasad

The ups and downs in sugarcane production and yield per acreage has resulted in cycles of surplus and deficit phases in the industry. The causes behind this forward/ backward swing and the steps/ attempts initiated to check the same are analysed in this article. The reformulation of the Sugar Policy for the year 1988-89 and other favourable factors created by good monsoons, technology upgradation, favourable weather and higher yield is expected to raise production to 100 lakh tonnes in 1988-89, the authors feel.

INDIA HAS EMERGED AS THE LARGEST PRODUCER of sugar in the world. Sugar industry on the production front is all set to achieve impressive results. However, it cannot be said that the industry is in the best shape as a large number of units are languishing or turning sick owing to uneconomic operations. The present changes envisaged in the sugar policy 1988-89 alone cannot make the industry strong. A judicious, pragmatic and rational approach that can overcome the present day problems of the industry and a policy that can go all-out to satisfy the genuine demands of the peasants are strongly recommended. Commenting upon the policy framework, Dr. M.S. Swaminathan, in his J.N. Tata memorial lecture at the Indian Institute of Science in 1981 said: "Indian agriculture has arrived at the crossroads, when the country can either become a major basket of the whole world or take to the begging bowl, to meet her food needs, depending upon the nature of the public policies adopted and its commodity endeavour generated." No doubt the centre has recently been showing keenness to achieve the country's self-sufficiency in food iterms; but her policies appear to be no more realistic-be it support prices for grains/food crops, provision of rural roads, supply of genuine/ quality pesticides, fertilisers and seeds, siphoning off irrigation water and streamlining credit. All discriminate against the farmers only. However, as agricultural production is expected to show substantial increase during the current year, improvement in the availability of agricultural raw materials for agro-based industries would enable them to attain higher levels of production.

Sugar industry, an agro-based one, is stated to be the second largest among processing industries in India consisting of 410 licensed sugar units of which 227 are in the Co-operative sector. Of the 384 installed factories, 209 are in the Co-operative sector and the number of sugar factories in operation is 355. The industry has a combined investment of over Rs.2,700 crores, with an output valued at over Rs. 3,000 crores per annum. The industry's contribution to the exchequers of both Central and State Governments, is in excess of Rs. 400 crores by way of excise and other levies. Sugar has also made a significant contribution to the foreign exchange earnings of the country over the years. The export earnings of the sugar industry steadily rose from Rs. 12 crores in 1957 to Rs. 472 crores in 1975-76; thereafter there was a decline and the figure stood at Rs. 141 crores for the year 1983-84. The sugar industry provides direct employment to about 3.35 lakh workers, besides providing indirect sustenance to

about [illegible] million cane growers all over the country. The industry covers [illegible] villages in our country and the total area under sugarcane cultivation is 3.4 million hectares at present. Its importance need hardly be stressed as it has made the country totally self-sufficient in respect of supplies of sugar, a valuable article of the diet of millions of people in the household sector and a sweetening agent in the industrial sector in the last few years with the expansion of soft drink and confectionary industry and is indispensable for uplifting the socio-economic conditions of the rural masses.

Cycles of surplus and deficit

The key factor for the success of the sugar industry is cane cultivation, its main raw material. If the sugar units are to be placed on a sound financial basis, there should be accelerated cane development in the sugar factory areas. Sugarcane production has been going through cycles of surplus and deficit phases and this is mainly the outcome of the corresponding increase and shrinkage in the area under sugarcane in response to favourable and unfavourable policy and price incentives.

Table I

Average sugarcane acreage, production and yield under plan periods

Plan Period	*Area (Million Hectares)*	*Production (Million Tonnes)*	*Yield (tonnes per Hectare)*
First Plan	1.7	67	39 1
(1951-56)	(1000.00)	(100.00)	(100.00)
Second Plan	2.1	91	42 8
(1956-61)	(23.52)	(35.82)	(9 46)
Third Plan	2.5	109	43.3
(1961-66)	(47 05)	(62.68)	(10 74)
Plan Gap	2.3	104	45 5
(1966-69)	(35.29)	(55.22)	(16.36)
Fourth Plan	2 6	128	48 4
(1969-74)	(52.94)	(91 04)	(28 34)
Fifth Plaan	2.9	149	51 3
(1975-80)	(70.58)	(122.38)	(31.20)
1978-79	—	153	—
1979-80	—	128	—
Sixth Plan	3.1	174	57 2
(1980-85)	(82.35)	(159.70)	(46 29)
1980-81	—	154	—
1982-83	—	189	—
1983-84	—	176	—

Note: Figures in the Paranthesis indicate Percentage increase over the First Plan Period
Source: Kothari's Industrial Directory of India, 1986

As shown in the Table I, there was a steady improvement in the area (47.05%), production (62.68%) and yield of sugarcane (10.74%) per hectare from the base year of the First Five Year Plan 1950-51 to the end of the Third Five Year Plan. Unfortunately, this rising trend was arrested by an unprecedented drought during the years 1966-69 as a result of which, there was a fall in the area under sugarcane from 2.5 million hectares to 2.3 million hectares and the production from 109 million tonnes to [illegible] million tonnes. Another contributing factor for this slump was the diversion from cane to high yielding varieties of foodgrains by the farmers. It is also observed that the sugarcane production once again experienced ups and downs in the years 1978-79 to 1980-81 and again in 1982-83 and 1983-84. However, the introduction of partial decontrol enabling the sugar factories to pay higher cane prices brought some restoration in the area under cane cultivation. The need for higher cane acreage and higher yields must be brought to the attention of cane growers, industrialists and the government and a desirable balance will have to be evolved between them in this regard. Some of the steps/attempts initiated by constituent agencies involved are explained herewith.

Checks initiated

A notable feature in the Fourth Five Year Plan Period was the application of modern technology to achieve a sugarcane output target of 150 million tonnes and ensure a yield of 60 tonnes per hectare. However, unfavourable weather conditions, inadequate irrigation facilities and untimely supply of quality seeds had put the sugarcane output at 141 million tonnes and only 51.2 tonnes per hectare could be achieved in spite of the introduction of modern technology. A comparative study of the yield per hectare of sugarcane in India (55.9 tonnes) with some countires like Brazil (62.5), U.S.A. (84.2), Columbia (85.7), Indonesia (85.3), and Oceania (76.1) reveals that the yield per hectare in India is very low and needs to be improved

An earnest endeavour should be made to increase the percentage recovery of sucrose from sugarcane. At present, the government fixes the sugarcane statutory minimum price and the levy—free sale ratio linked to a basic recovery of 8.5 per cent. In our country, recovery percentage varies from sector to sector and generally the private sector has an edge over the public and co-operative sectors. The average recovery percentage was around eleven per cent in the private sector, an all time record, as against 8.88 in the co-operative units during the year 1987-88.

It is interesting to note that many sugar mills in India do not have their own sugar plantations, like the ones in the West Indies and this restricts control over the quality and quantity of sugarcane. The Working Group set up by the Planning Commission in 1983 in respect of sugar industry recommended that during the seventh plan period, the sugar factories should be made more responsible for the development of sugar cane in their respective areas and the technical guidance and support for the purpose might be provided by the central and state extension agencies. It is desirable for the sugar factories to have a farm of their own and thus help in training the farmers and extension workers. The cane areas of every factory should be statutorily demarcated

There should be a need-based, timebound

sugarcane development programme drawn by the sugar factories themselves to increase the availability of sugarcane by improving the productivity of sugarcane and not by the enlargement of the cane area. For this, the Cane Research Institutes in the country should intensify their efforts to develop appropriate cane varieties having a high sucrose content, better yield per hectare and resistance to pests and diseases. On its part, the central government has sanctioned an amount of Rs. 97.02 crores from the sugar development fund for cane development of which an amount of Rs. 35.03 crores has already been disbursed. The Working Group appointed by the Planning Commission has set a target of 234 million tonnes of sugarcane by the end of the seventh plan and this target is to be achieved by inter-cropping, ratoon management, plant protection, minor irrigation and development of communication facilities like roads, culverts and bridges A lot of relevant research work has been carried out in Hawaii, Australia, Mauritius, Japan and Taiwan on various aspects of sugarcane cultivation. India can do well to examine the achievements of these countries and take steps for the immediate adoption of such techniques as may be useful for improving the crop yied and quality. If relentless efforts are made and the technology upgradation is introduced in the farm sector, the level of production of sugarcane could be doubled to around 300 million tonnes and the yield raised to 70.26 tonnes of cane per hectare as per the worked out projections for 2000 A.D. by the experts.

[illegible]

Sugar production which depends mainly on the sugarcane cultivation has been experiencing surplus and deficit periods in the past which can be seen in Table II.

Table II

Sugar Production, 1971-72 To 1988-89

Year	*Production(in lakh tonnes)*	*Percentage Increase*
1971-72	31 10	
1972-73	38 74	24 57
1973-74	39 48	1 91
1974-75	47 97	21 50
1975-76	42 64	−11 11
1976-77	48 43	13.58
1977-78	64 62	33 43
1978-79	58 44	−9.56
1979-80	38.59	−33 97
1980-81	51 48	33 40
1981-82	84.38	63 91
1982-83	82 32	− 2.44
1983-84	59 09	−28.33
1984-85	61 44	3 98
1985-86	70 03	13.98
1986-87	85.04	21.43
1987-88	91.14	7.17
1988-89*	100.00	9 72

* Provisional

Source: (i) Kothari's Industrial Directory of India, 1986

(ii) The Economic Times, December 24, 1988

The production trends as viewed in table II give us an idea that the production which touched 64.62 lakh tonnes in 1977-78 declined to 58.44 lakh tonnes in 1978-79 and further came down to 38.59 lakh tonnes in 1979-80. Thereafter, it reached a record level of 84.38 lakh tonnes in 1981-82 and again slumped to 59.09 lakh tonnes in 1983-84 Owing to these oscillations, India which hitherto, exported more than Rs. 800 crores of sugar in the years 1975 and 1976 had to import over 30 lakh tonnes of sugar valued at about Rs. 1200 crores in foreign exchange since its output came down from a level of 84.38 lakh tonnes to 59.09 lakh tonnes In fact, imports accounted for 38 lakh tonnes of sugar valued at Rs. 1360 crores between the periods 1984-85 and 1987-88 However, India, owing to the improved performance of the farm sector and the resultant increased output, may again become an exporter by exporting at least three lakh tonnes of sugar valued at Rs. 135 crores during the current sugar season.

A combination of several adverse factors like shrinkage in cane acreage, lower yields, inability of sugar mills to pay high cane prices have been responsible for the above inconsistent production trends. Delayed payments and huge arrears of cane prices also resulted in the diversion of cane to commercial producers of gur and khandsari at considerably lower rates against prompt payments As a result, only 87 sugar mills were in operation around the middle of 1983-84 season as against 224 in 1982-83.

Recovery and records

The year 1986-87 was a spectacular period for the industry. There was a record sugar output of 85.04 lakh tonnes, followed by 112% capacity utilisation. The cane farming community represented 35 millions which is seven per cent of the rural population. The consumption of sugar stood at 87 lakh tonnes, and the per capita consumption has also gone up by 55 per cent The industry once again met with great success in 1987-88 and achieved an output of 91 14 lakh tonnes during the year. The sugar industry is set to achieve a record production for the third year in succession, thanks to the most favourable factors created for its optimum operations The production is expected to cross 100 lakh tonnes set for the current season. This would be possible because of the exceptionally good monsoon and favourable weather, assuring a bountiful supply of sugarcane from all sugarcane growing states particularly from U.P., Maharashtra and the entire southern region.

The sugar policy

Another encouraging sign for the industry has been the reformulation of the sugar policy for the year 1988-89 with revisions in the statutory minimum price for sugarcane, free sale-levy sugar ratio, issue price and zonal levy sugar prices. These changes will satisfy most of the demands made by the industry to make itself economically more viable, to achieve

maximum capacity utilisation and to step up sugar production. The government has raised the statutory minimum price of sugarcane from Rs. 19.00/- to Rs. 19.50 per quintal for the 1988-89 season linked to a basic recovery 8.5 per cent which induces the growers of sugarcane to a better supply of sugarcane to the mills. There has been a revision in the free sale—levy sugar ratio from 50:50 to 55:45 which enable the industry to benefit by an addition of Rs. 100 crores per annum as it will have to provide only 45 per cent of its production for levy. Given the production of 100 lakh tonnes, the industry will have the extra five lakh tonnes at its disposal for sale in the open market, which brings about Rs. 200/- per quintal more compared to levy sugar. The price of the sugar sold through the public distribution system was also raised by 0-15 paise, thus fixing the levy rate at Rs. 5.25/- per kg. keeping in view the increase in the statutory minimum price. These measures will certainly help the industry in making prompt payments to the farmers unlike in the past. Reacting on the changes in the sugar policy for the year 1988-89, Mr. Ram V. Tyagarajan, President, Indian Sugar Mills Association, has said that the meagre increase of 0-50 paise per quintal in the statutory minimum price for the current season has caused disappointment both to ISMA and to the cane growers. The sugar mills, however, are compelled to pay Rs. 3/- per quintal more than the statutory minimum price as the sugarcane cultivators expect a minimum operative market price of Rs. 35/- per quintal. He has demanded a free sale—levy ratio of 60:40 in order to neutralise the losses for providing sugar for levy purpose in the context of larger releases of free sale sugar and the consequent fall in the open market prices. About the need to strengthen the weaker units, he deplored the delay on the part of the government in accepting the Bureau of Industrial Costs and Prices (BICP) suggestion that the weaker units must be paid an additional Rs. 47/- per bag against the earlier provision of Rs. 26/- per bag (which was withdrawn last year). He also pointed out that most of the weaker units were either in the co-operative sector or in the state sector.

The president, ISMA pleaded for a policy of broadbanding to be extended to the sugar industry also to enable a profitable utilisation of the byproducts—molasses, bagasse, press mud, cane tops etc. It is observed that in spite of the continuous and rapid progress of the sugar industry, its byproducts have continued to remain neglected. This plea of broadbanding concept, according to him, had not evoked a positive response from the government and this has resulted in a glut in molasses as the offtake has been poor and the problem was compounded by the introduction of partial or full prohibition in some states. It was also not possible to export molasses because of logistic problems. If broadbanding was permitted, the sugar industry would be enabled to utilise the molasses either to produce industrial alchohol or other chemicals. For instance, the sugar industry in Cuba and other countries is stated to be producing as many as 2 byproducts. The sales turnover from these byproduc has gone up so high that sugar has been reduced to byproduct. In this context, it is well said, that rich industries make their country rich by utilising thei wastes profitably, on the other hand, the poo industries keep their country poor by not utilisin their wastes commercially. Efforts are being made b the sugar units in India to maximise the production c byproducts and thus bring down the cost of sug production in the country.

According to Mr. Indubhai C. Patel, Presiden National Federation for Co-operative Sugar Factori (NFCSF), the cost of sugar production has increase on account of increase in price of cane and oth factors. It was essential that sugar prices a maintained at reasonable levels consistent wi higher costs. For the sugar season (1987-88), the actu free sale sugar realisation by the industry has bee lower than the levels assumed to be fair and reas nable by the government, which was Rs. 750/-to R 800/- per quintal. Against this, the actual avera realisation was only Rs. 560/- per quintal and sin then the prices have declined further. In consequen many sugar mills particularly the weaker and ne ones have been facing a serious financial crunch.

Lastly, the president, ISMA, also reiterated th need for orderly sugar releases under free sale quo if the available quantities of sugar were to last till th end of the current season (upto October, 1989) and minimum carry over stock of above ten lakh tonn have to be maintained. On the contrary th disproportionate and large liberal releases of sug under free sale quota by the government h stabilised the prices in the open market at low prices which resulted in the increase in th consumption of sugar whereas the productio continues to lag behind the consumption. Hence, th government should take cognizance of a fast consumption rate of sugar which works out to eig per cent against the growth of 7.2 per cent i production. The sugar production and consumptio stood at 91.14 lakh tonnes and 93.89 lakh tonnes i 1987-88 respectively. It will be highly commendable the industry endeavours to boost the sugar productio in view of the suitable changes in the sugar policy an favourable monsoon conditions by diverting mo sugarcane from gur and khandsari industries. As th recent increases in the sugarcane prices wi definitely attract more cane from the farmers, it m not be difficult for the industry to increase its sha from the present 52 per cent to 62 per cent of availabl sugarcane supplies and help the country in attainin self-sufficiency in sugar. The government along wi the co-operation of the industry should ensure th the consumption growth of sugar is commensura with production increases, otherwise the count boasting as the largest producer of sugar in the worl will be constrained to import sugar. □□□

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Tea—an export oriented industry

Dr. Nafees Ahmad Khan and Mohd. Yameen

Tea industry in India though established and developed towards the beginning of the century has been in doldrums for quite some time now. What ails this industry? What are the bottlenecks on the export front and what are the tangible solutions? The authors attempt to answer these through this article.

TEA, AN IMPORTANT SOURCE OF refreshment in the life of man was discovered in China in the 6th century A.D. It became a popular beverage since the beginning of the 8th Century A.D. Tea industry is one of the earliest industries in India developed by the Britishers. Its development on scientific lines started with the establishment of Tocklai Experimental Station in Assam in 1911. Being an export oriented industry it occupies a crucial position in the national economy of India.

After independence it became clear that the accelerated transformation of Indian economy can not be attained unless the export oriented industries are developed and expanded in the country. Tea industry is one of the most important export oriented industries which gave impetus to the development and growth of national economy. During the period of more than three and half decades the production of tea has gone up more than double i.e. from 278 million kgs in 1950-51 to 624.7 million kgs in 1986-87, indicating an overall rise of about 125 percent. Tea industry has contributed a significant amount of foreign exchange to the national exchequer, but the share of export in comparison with the improvement in total production of tea has declined over the years.

The table below provides a profile of trends in production and export of tea and mate between 1970-71 to 1986-87.

Table 1

Trends in Production & Export of Tea & mate (1970-71 to 1986-87)

Year	*Production (million Kgs)*	*Export (Million Kgs)*	*% of export in total production*	*Value of Export (Rs. Crore)*
1970-71	423	199 1	47 1	148 3
1975-76	483	212 3	44.0	236 8
1980-81	568	229 2	40.3	425 5
1981-82	560	213 8	38 2	395.2
1982-83	560 7	194 6	34.7	369 8
1983-84	581.5	188 0	32.3	515 2
1984-85	639 9	213.9	33.4	766 6
1985-86	656 2	205.8	31 3	626 3
1986-87	624 7	190 5	30 5	549 7

Source Production (a) Foreign Trade review, October-December 1987 p 328
(b) Report on currency and finance, R BI. 1986-87 p. 48
Export Economic Survey, Govt. of India Publication, 1987-88 p S-75

Fall in export

A close look at Table I reveals that the total production of tea increased to 624.7 million kgs in 1986-87 from 423 million kgs in 1970-71, indicating an overall rise of about 48 per cent during the same period. The value of export of tea has also increased to Rs. 549.7 crore in 1986-87 from Rs. 148.3 crore in 1970-71, but the volume of export has gone down to 190.5 million kgs in 1986-87 from 199.1 million kgs in 1970-71. The value of export has gone up mainly on account of increase in unit value realisation. In the last few years, tea export to west Germany has gone down in terms of volume although the value has gone up to Rs. 51.57 per kg. in 1986-87 from 18.40 per kg. in

1975-76. The table also shows that the export of tea in comparison with improvement in total production has steadily declined over the years i.e., from 47.1 per cent in 1970-71 to 30.5 per cent in 1986-87. This view is corroborated by Table no. II given below which denotes India's share of tea & mate productions in world export between 1980 to 1985.

Table-II

India's share of Tea and Mate productions in World Export (Value in US Million Dollar)

Year	*World*	*India*	*India's share percentage*
1980	1631	452	27 7
1981	1573	442	28 1
1982	1332	305	22 9
1983	1441	254	17 6
1984	2461	321	13 0
1985	1635	195	12 0

Source Economic Survey, Govt of India Publication 1987-88 p S-78

Reasons for decline in export

Tea is one of the most important items of Indian export. It was occupying the first position in India's exports in certain years. But later the export steadily declined. It is evident from the above table that India's share of tea in global export declined from $ 452 million in 1980. to $ 195 million in 1985, indicating a decline from 27.7 per cent to 12 percent during the same period Various reasons for continuous decline in export of tea are, severe price cut by competitor countries like Sri Lanka, China & Kenya, financial difficulties of some traditional importing countries of Indian tea like Bangladesh Iran & Iraq, phenomenal increase in population and consequent improvement in per capita consumption of tea in the country

To counter the sharp fall in the export of tea, the Government has granted certain concessions like Cash Compensatory Support (CSS) on packet tea as well as exemption of excise duty on packet tea export. The export of tea from South India is facing vigorous competition from Sri Lanka, due to lower prices of Sri Lankan tea in the international market. So, for raising the export of tea from south India, the Ministry of Commerce has announced grant of promotional incentives The promotional incentives scheme has been in operation from July, 1988 to March, 1989, and is directly related to increased export turnover. If there is no rise in export of tea above the base level as given in the table III, the incentives will be denied to exporters Table III below denotes the incentive scheme related to export market

Table III

The incentive scheme linked to export market

(quantity in million Kgs.)

Country	*Base level*	*Incentive = Re 1 per Kg.*	*Incentive = Rs. 1.50 per kg.*
U.S.S R	30	30 to 40	40 and above
Egypt	3	3 to 10	10 and above
Iraq	3	3 to 10	10 and above
U.S.A.	2	—	2 and above
U K.	1.3	—	1.3 and above
Australia	0.1	—	0 1 and above
Syria	0.1	—	0.1 and above
Jordan	0.1	—	0.1 and above

Source; Economic Times, New Delhi, Agust 1, 1988, p 1

Remedies

In order to boost export of tea, it is essential that a long term plan should be drawn up prudently by the tea indsutry through improving the quality of exportable varieties, standard of packaging and printing of tea packets. The Government has to play an important role in promoting export of tea through establishing more trading institutions and fiscal incentives. Department of Export Promotion, Trade Development Authority (TDA) and Tea Board should take concrete measures for expansion and growth of tea market abroad There is already a good market for Indian tea in European Countries, e.g. France alone imports about 10 million kgs of tea per annum. Of this, 70 per cent accounts for black tea. National Bank of Agriculture and Rural Development (NABARD) should also provide easy term loans to export oriented crops like tea etc

In the end it may be observed that tea industry of India has generously contributed a huge amount of its production to the net national product and accounts for a sizable share of the total value of the country's export. In spite of being an export oriented industry it has been in doldrums for a long time. Export volume has been decreasing against the continous increase in production. It is expected that with the help of favourable policies of the Government, the industry will show better results in the export front in the years to come and that tea industry will utilise the incentives provided by the Government not only to raise the value of exports but also the volume □□□

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Assistance from IDA for ground water schemes

Six projects were currently under implementation for the development of ground water resources with assistance from the International Development Association. These projects are the Uttar Pradesh Public Tubewells Phase- II Project with aid of US $ 101 million, the West Bengal Minor Irrigation Project receiving US 99 million dollars, the Bihar Tubewells Project with aid of US 66 million dollars, the Upper Garge Modernisation Irrigation Project getting US 125 million, the Chambal Irrigation-II Project getting aid of US $ 31 million and the Haryana Irrigation -II Project receiving IDA Assistance of 150 million US dollars.□

Industrial scene in Bihar

Shovan Sen Gupta

Bihar is facing a serious problem of resource crunch particularly in the indsutrial front. In this article the author focusses attention on the different sources of industrial finances in Bihar and attempts to outline a proper role of such financing for the state's healthy indsutrialisation.

THE INDUSTRIAL SCENE IN BIHAR REMAINS murky even after 41 years of independence. It is largely on account of poor infrastructural support, low investments, over-cautious lending by financial institutions, inordinate delay in disposal of applications for different purposes by the State Government, lack of captive market, sickness of a large number of units, deficiency of energy and adequate infrastructure. The rate of growth in indsutrial production in Bihar has been 0.46 per cent as compared to 7.61 per cent in Punjab, 6.83 per cent in Karnataka (Table -1). The percentage share of employment in Bihar in industries was 4.6 per cent in 1979-80; investment was 11.7 per cent and output was only 5 0 per cent which is a matter of concern when compared with other states (Table-2). Even if we compare the growth rates of mining based industries, for which Bihar possesses locational advantage, the all-India growth rate is higher.

Of all the factors outlined above, one of the basic factors for rejuvenating the indsutrial atmosphere in Bihar is the sanction and disbursement of adequate finacne for working capital. The capital for industrialisation has to flow from the State Government's own resources, private promoters, all-India financial institutions, the State financial institutions, Commercial banks, institutions like LIC, the UTI and Central Sector investments.

Financing of industries in Bihar

The Central Sector investments in Bihar, have not been significant especially after the mid-sixties. Regarding state's own resources, the budget for industrial sector is circumscribed by the limitations of state's resource constraints and the size of the overall Plan of the State In recent years the budgetary allocations of Indsutries Department has been increased to 4 per cent of the State's total Plan outlay from 2.82 per cent during the Fifth Plan period, still the budgetary allocations are too meagre for our State's needs During the Second Five Year Plan the budgetary allocation for the industrial sector was 6 per cent of the State's total outlay.

Since, there are limits to Government-led industrial growth, capital for industrialisation has to flow from the Financial Institutions. The main catalyst for regional industrialisation is the Industrial Development Bank of India (IDBI) But its performance in Bihar has not been statisfactory. The per capita assistance disbursed by the IDBI till June 1988 in Bihar has been Rs. 65.31 as against Rs 301 68 for all India. It is unfortunate that the cumulative assistance disbursed to small, medium and large sectors in Bihar till June 1988 was merely 2.2 per cent of the total assistance in India (Table -3). As against an aggregate disbursement of Rs. 20674 crores only Rs. 457 crores was disbursed in Bihar till June 1988. The direct assistance to backward areas in Bihar has merely been 0.58 per cent of that of India as a whole and this reveals the concern of the IDBI in uplifting the backward areas of the State.

The Bihar State Financial Corporation (BSFC) is a financial institution like IDBI and is guided by it. It provides loans upto a limit of Rs. 60 lakh and lends to small and medium scale industrialists. The Bihar

Industrial Credit and Investment Corporation (BICICO) is also guided by IDBI and is eligible to sanction Rs. 90 lakh as loan. It combines the roles of industrial catalyst, and official coordinator for Government clearances as projects in Bihar. Though the sanction and the disbursement of loans by the BSFC and the BICICO has been increasing every year (Table-4). They have not proved to be a catalyst of industrialisation as they play a very limited role and the situation cannot improve unless they have full autonomy from the IDBI.

The commercial banks too have dismally failed in ushering in regional industrialisation and as a conduit for bringing in indsutrial health These banks have been very successful in Bihar in deposit mobilisation but it has not been matched with credit disbursements. Out of a total bank credit of Rs 2109 crores only 33.3 per cent went to industries. The credit-deposit (CD) ratio has been stagnant at a low rate and has even declined in some years. The CD ratio in Bihar is 37 per cent as against nearly 61 per cent in India in 1987 (Table-5) and this is a serious and and unfortunate matter.

Similarly, the investments by the LIC, the UTI and other financial institutions in Bihar is the lowest at around 1.4 per cent As against an aggregate disbursements of Rs. 12195 63 crores by all financial instritutions up till March 1983, only Rs 380 12 crores or 3.12 per cent has been disbursed in Bihar (Table-6)

Suggestions

The State Government should approach the Union Government for fresh Central Sector investments in heavy industries and promote joint ventures The budgetary provisions for the industrial sector will have to be raised to about 10 per cent of the State's total Plan outlay or at least the Second Five Year Plan budgetary allocation of 6 per cent for industrial sector of the State"s total outlay should be restored

With regard to the improvement in the working of IDBI in Bihar, all the State level financial institutions like the BSFC and the BICICO should be given more autonomy in selecting the projects and sanctioning the loans. The IDBI's approach toward SFC's should be generous, liberal and responsive, Since IDBI sanctions loans to the SFC's on the basis of (a) target, (b) disbursements and (c) recovery of loans but ultimately the sanction of loans is dependent on the realm of recovery and past performances. But usually for a state like Bihar recovery performance is poor. Overdues are substantial and sometimes there is a tendency of wilful default which clog the pipeline and make the recycling of funds difficult, Special efforts would have to be made for quick recovery of loans and stern action should be taken against the wilful defaulters. One of the criticisms by the industrialists of the State is regarding the delays in sanction and disbursement of assistance. This has to be taken care of and there should be cut down in delays in project appraisal and grant of loans. The BSFC being a premier lending institution must try to develop entrepreneurship by finding out worthwhile projects according to the suitability of the region and helping the entrepreneurs to invest in viable projects. The officers heading the different organisations and Corporations should be allowed to stay at a post for a reasonable period in order to discharge their work efficiently and for this it is desired that their selection is based on aptitude and experience in undertaking development

Also, there has been some problems in respect to sanction of working capital by the commercial banks. The falling credit-deposit ratio has become a matter of serious concern and these banks have been very casual about the development of the State. In a state like Bihar where natural resources are abundant, these banks could have played an important role in making Bihar a prosperous inudstrial state. The rules and procedures of granting loans should be made as simple as possible The commercial banks need not be too much technical about project viability and credit worthines so that it becomes a problem for the entrepreneurs. There should be a special system to monitor the implementation of various projects and coordination among different agencies must be achieved among RBI, the commercial banks, different term lending institutions and the ministeries

The State Government's efforts of attracting non-resident Indians (NRI) entrepreneurs is a welcome step and a NRI cell has been set up to accord highest priority to the investment proposals coming from the NRI's

It is urgently needed that in a few years to come measures may be taken as to substantially step up the rate of private investment, because it is only the private sector which is the harbinger of change in the present industrial environment of the State. The strategy must cater to the geo-climatic characteristics, cost and comparative factor advantage of different region of the state North Bihar being poor in mineral resources must stress on agro based products and food processing industries whereas South Bihar should stress more on mineral based industries, Since Bihar is basically an agricultural state, there is a need to augment the priorities of industrialisation with widespread agricultural development in Bihar. The State Government will have to gear itself for proper development of infrastructure conducive for industrial development particularly, more power projects would have to be undertaken to generate adequate energy. To achive all the above perspectives for regional industrialisation of Bihar, it is necessary to constitute an Industrial Commission by the Government to undertake an indepth study of all aspects of the problems which may guide the Government and the entrepreneurs for a healthy industrialisation of the State.

Table 1

Annual compound rate of growth in industrial production —Bihar vis-a-vis other states

Name of the State	*Industrial Production (Per cent) 1960-61 to 1980-81*
1. Andhra Pradesh	5.28
2. Bihar	0.48
3. Gujrat	4 58
4. Kerala	5.27
5. Haryana	5 85
6. Karnataka	6.83
7. Madhya Pradesh	3.46
8. Maharashtra	5 59
9. Orissa	4.84
10. Punjab	7 61
11. Rajasthan	3 35
12 Tamil Nadu	4 70
13 Uttar Pradesh	3.87
14. West Bengal	1 60

Source : C S O Bulletins

Table-2

Principal Characteristics of Industries: Bihar, India and selected states 1979-80

States	*Employment ('000)*	*Invested*	*Output*
Andhra Pradesh	702	2398	547
	(9.1)	(5 8)	(5.0)
Bihar	353	4863	543
	(4.6)	(11 7)	(5 0)
Gujarat	714	3627	1028
	(9 3)	(8 7)	(9.5)
Karnataka	372	1818	566
	(4 9)	(4 4)	(5 2)
Madhya Pradesh	315	2390	451
	(4 1)	(5 7)	(4 1)
Maharashtra	1340	7378	2702
	(17 4)	(17 7)	(24 9)
Tamil Nadhu	791	3194	1073
	(10 3)	(7 7)	(9 9)
Uttar Pradesh	711	3928	680
	(9 3)	(9 4)	(6 3)
West Bengal	970	3429	1191
	(12 6)	(8 2)	(11 0)
Others	1411	8562	2063
	(18 4)	(20.6)	(19 2)
Total	7678	41588	10865
	(100 0)	(100 0)	(100 0)

Source: Selected Plan statistics (1986), Bihar State Planning Board, Patna.

Table 3

Cumulative assistance disbursed to various categories, sectors till June 1986 by IDBI

(Rs. crores)

Sector	*India*	*Bihar*	*Bihar as per cent of India*
Medium and Large	14660.3	252.6	1.80
Small	6013.6	203.9	3.06
Total	20673.9	456.5	2.22

Source: Hindustan Times, Patna, December 30, p. 19

Table 4

Sanction and disbursements of term loans by BSFC and BICICO

(Rs. in lakhs)

Year	*BSFC*		*BICICO*	
	Sanction	*Disburse-ments*	*Sanction*	*Disburse-ments*
1983-84	3367	1575	651	302
1984-85	4941	2082	1082	442
1985-86	6250	3200	1634	760
1986-87	9000	5600	1880	1200

Source: Same as Table 3

Table 5

Credit-Deposit Ratio (per cent) of scheduled commercial banks (December 1970 and December 1987)

Major States	*C.D. Ratio*	
	1970	*1987*
1 Punjab	38.2	43.4
2. Maharashtra	90.9	74.0
3 West Bengal	93.3	50 3
4 Gujrat	59.2	54 9
5 Kerala	71.2	63 8
6 Haryana	61.0	62 7
7. Tamil Nadu	113 0	92 7
8 Karnataka	78.4	90 7
9 Andhra Pradesh	109.1	79 6
10 Uttar Pradesh	52.6	42 6
11 Rajasthan	55.5	60 7
12 Madhya Pradesh	62.5	60 3
13 Assam	46.9	51 7
14 Orissa	54 3	83 5
15 Bihar	34.6	37 2
All India	76 0	61 0

Source Hindustan Times, Patna, December 26, p 19

Table 6

Statewise assistance sanctioned and disbursed by all financial institutions (cumulative upto march 1983)

(Rs. crores)

State	*Sanctions*	*Disbursements*
1 Andhra Pradesh	1187.68	882.23
2 Bihar	589.23	380 12
3 Gujrat	2187 69	1555.82
4 Karnataka	1294.76	935 73
5. Maharashtra	3224.60	2421.24
6 Punjab	549.40	415 66
7 Rajasthan	761.61	534.66
8 Tamil Nadu	1659.54	1161.80
9. Uttar Pradesh	1210.05	894.46
10. West Bengal	1190.51	2051.79
All India	16837.52	12195.63

Note : Institutions covered are IDBI, IFCI, ICICI, LIC, UTI, CIC, IRCI, SFC and SIC.

Source: Selected Plan Statistics (1986), Bihar State Planning Board, Patna.

Rural Water Supply, A case study

C.S. Adhikari

The article is a study of the water supply services in rural areas with particular reference to the problem village of U.P. Following the U N declaration of 1981-90 as the Drinking Water Supply and Sanitation Decade, the Govt of India had fixed a goal of 100 per cent coverage in terms of rural water supply by 1990. What are the schemes in operation for achieving the target; what are the problems facing these schemes and what is the net result of implemention of the schemes vis-a-vis the target. These issues are discussed by the author who winds up pleading for proper motivation and mass participation for the success of the schemes.

THE FACILITY OF ADEQUATE AND POTABLE drinking water supply to all towns and villages is necessary for human health. Even after more than 35 years of independence, according to 1981 census, of the total 5,66,878 villages about 2,31,100 (40 75 per cent) villages are problem villages from the point of view of drinking water facility. The sitnation in Uttar Pradesh which accounts for 14.8 per cent of the total scarcity villages in India is equally serious.

The water supply services in rural areas attracted the attention of policy makers rather belatedly only after 1960. It got further impetus following the U N Water Conference in 1977 and finally by the proclamation of the International Drinking Water Supply and Sanitation Decade of 1981-90, by the United Nations General Assembly in 1980. India, being signatory to all these conferences also adopted the resolution and fixed a goal of 100 per cent coverage in terms of rural water supply by 1990. Now, the year 1990 is not far off and we can look into the problem purely in statistical terms as how near or far we have reached to our target. But the gravity and magnitude of rural drinking water supply could not be ascertained by figures like number of schemes completed or number of villages covered under drinking water schemes alone. These figures notwithstanding, what really matters is the number of schemes functioning properly and providing water supply in a sustained manner.

The problem

One of the most disconcerting problems in relation to drinking water schemes, the people are facing, is the failure of water schemes to supply drinking water in a regular and sustained manner. The reasons for the irregular and intermittant supply of drinking water schemes are many which could primarily be attributed to the planning, designing, implementation and maintenance of the schemes Apart from these factors, the top-heavy structure of the agencies involved in drinking water schemes and lack of people's participation have also rendered a number of schemes non-functional and redundant.

Objectives and Issues

The paper aims at an analysis of the structure and working of the institution/agencies (mainly Jal Nigam) mainly in terms of planning, implementation and maintenance of the rural drinking water schemes and then to pinpoint the underlying problems and extend suggestions To be more specific the objectives of the paper are·

1 To present the status and arrangement of rural water supply in Uttar Pradesh
2. To examine the administrative set-up, working, of Jal Nigam in terms of planning, implementation, and
3. to highlight the missing dimension with regard to the planning and execution of the programme and to extend suggestions.

The Present status

Supply of drinking water to all problem villages has been accorded a top priority and accordingly included in the 20 point programme as well as minimum needs programme. The gigantic task of providing drinking water supply to problem villages and maintenance of the schemes has been entrusted

to multiple agencies which differ from state to state. In Uttar Pradesh, sewerage and water supply schemes in urban areas and water supply in problem villages and rural sanitation schemes are being implemented by Jal Nigam. The water supply schemes in Harijan bastis through construction of wells, hand pumps and diggis are being implemented by the Rural Development Department. As far as the maintenance part of the rural drinking water scheme is concerned, a number of agencies, such as Jal Nigam, Zila Parishads, Rural Development Department and Jal Sansthan are involved. However, the rationale to appoint these many agencies and their jurisdiction which is mainly guided by district boundaries and social groups is not understandable.

Jal Nigam constructs water and sewerage works and then the same are handed over to Jal Sansthans in KAVAL towns and hill areas. In the remaining areas, the work is transferred to the urban local bodies concerned and Zila Parishads. The Works: Diggis, Wells cosntructed by Rural Development Department after completion are handed over to respective Gram Sabhas for maintenance.

In Uttar Pradesh, of the 78,084 problem villages, till March 1985, 40,070 villages (51.4 per cent) were covered under rural water supply scheme. To cover the remaining scarcity villages by 1990 is not a tall order, but what is more important is, whether the number of drinking water schemes being installed are really going to cater to the regular water supply needs on a long term perspective Before going into this kind of evaluation it would not be out of context to examine the organisation and working of Jal Nigam, a principal agency mainly responsible for providing drinking water supply in the state

Functions and management of Jal Nigam

The Managing Director stationed in the state capital is the principal person to look after the entire working of Jal Nigam. He is assisted by Chief Engineers at zonal level, Superintending Engineers at divisional level and Executive Engineers and Assistant Engineers at the district level At the block level, Junior Engineers are responsible for planning and implementing the drinking water schemes, under the overall supervision of the Assistant Engineers and Executive Engineers. In decentralized, district level planning, it is the district where the planning exercise should take place. However, in practice the state level administrative departments/corporations determine the targets and indirectly the outlay thereof and in this respect the Jal Nigam is no exception. Whatever autnnomy the district level administration enjoys is not fully delegated to it by choice rather, it is due to the in-built flexibility existing in the nature and scope of the progammes. In case of Jal Nigam, the identification of scarcity villages, location of water sources, and design of the schemes, etc. takes place at the district itself with the help of departmental officials as well as people's representatives in accordance with the guidelines from the state government.

The implementation of drinking water schemes is undertaken by the field staff consisting of : Junior Engineers, Supervisors and Contractors. The Assistant Engineers and Executive Engineers undertake field visits and provide technical advice as and when required during the implementation of the schemes. The execution of the drinking water schemes as per the state guidelines should be taken up on a contract basis. However, if the tenders do not come up on the spot, the works could be undertaken on the muster roll basis The operation and maintenance of rural water supply as already pointed out has been given to Jal Nigam in 18 districts, Jal Sansthan in U.P. hills and Bundelkhand and Zila Parishads in the remaining districts The departmental cards have been issued to the Gram Pradhans for lodging complaints, if any, regarding the maintenance of water schemes. As and when the pumps or piped water schemes develop some problems, the card is sent to the department (Jal Nigam) and the maintenance team at Tehsil level comprising one Fitter and one Junior Fitter visits the site and does the rapairing work subject to the satisfaction of the Gram Pradhan On the other hand, Jal Sansthan has appointed part-time workers to undertake the maintenance work.

The monitoring and review of the water schemes undertaken by Jal Nigam takes place either through the meeting held at different levels or through spot verifications by senior officers. Further, there is one departmental wing known as monitoring cell which monitors the progress of district sector schemes as well as other schemes financed by state, central or international organisations. The administrative set up of the wing consists of the following:

1. Managing Director
2. Manager (Monitoring)
3. Assistant Engineer (Monitoring) for all zones.

The Zonal Chief Engineer collects information of every district through their field staff. The Executive Engineer posted at district headquarters compiles the information of the district and sends the same to the Zonal Chief Engineer through Superintending Engineer every weak. The Zonal Chief Engineer then sends the infromtion to the Manager (Monitoring) through the Assistant Engineer (Monitoring) posted in his zone.

Apart from this, the Executive Engineer holds the meeting every week end with his Assistant Engineers, to review the progress of the works including execution and planning. Further there is one circle Executive Committee chaired by the Superintending Engineer, Executive Engineer and Divisional Officers being its members which also reviews the progress of the works.

Some missing dimensions

It is a noble idea to dedicate a particular decade in favour of a particular socio-economic programme

and thereby to attract the attention of the governments, planners and administrators in particular and people in general. The very moot idea, it seems, worked to observe the decade of 1981-90, as the decade of International Drinking Water Supply and Sanitation by the United Nations General Assembly in 1980. It is true that the international forums like United Nations recognised the pressing need of safe and potable drinking water in under-developed countries, but it does not mean that the under-developed countries should follow the rhetoric as it is without creating capabilities and infrastructure network to achieve the objectives of the programme. In India and more particularly in Uttar Pradesh, it seems that the government wants to take up all the scarcity villages under rural drinking water schemes, irrespective of the fact, whether the villagers get drinking water on a permanent basis or not. At the moment, the budget is no constraint at least for rural water supply. However, the field experience and many evaluation studies point out to the fact that a large number of small piped water supply and hand pump schemes have already become non-functional because of defective design, faulty installation of hand pumps and piped line, poor maintenance and lack of public participation etc. The Commission on District Level Administration (1986) rightly observes that "many of the old systems have become inefficient and need repairs/replacement/augmentation/extension. Many of the piped water schemes in hill regions have been non-functional for years" The magnitude of the poor delivery of piped water schemes could be gauged by the facts demonstrated by a study, 'Perspectives on Development of Hill Areas in U.P.' with which the author was also associated. The study covered about 40 villages from eight hill districts covering a sample of 844 households and revealed that on an average, about 83 per cent households covered under drinking water supply schemes still use old sources of water like springs, ponds, rivulets and rivers etc. The sample households of Tehri Garhwal and Nainital have reported their utter dissatisfaction with the adequacy of piped water supply while about 60 per cent households expressed dissatisfaction each in Almora, Pauri Garhwal and Dehradun district. Majority of the households reported poor or no maintenance of the drinking water schemes as the main factor for rendering the schemes non-functional. This explanation could not be doubted as the government had neither a comprehensive policy nor sufficient budget for maintenance of the schemes till very recently. As a matter of fact, budget allocation for maintenance was being funded from non-plan budget but recently the government of India has agreed to provide ten per cent of the plan budget of rural water supplies for the maintenance work.

Today the drinking water schemes have become 100 per cent official schemes. In the past, the Gram Sabhas used to contribute a part of the outlay of the drinking water scheme and actively involve in the execution and maintenance of the schemes. But now there are no local efforts to maintain them as people have come to depend on government for their upkeep. It is true that Gram Sabhas do not have adequate funds for the maintenance of the drinking water schemes. But with a little bit of motivation and cultivation of community ethos among the people and making them an integral part of the scheme right from its conception to its maintenance it would not be difficult to create funds for such an important scheme of drinking water. An incentive in terms of matching grant from the government could also help augment funds. Further, the drinking water schemes also could be taken up under National Rural Employment Programme also. With the funds thus created a kit of implements for repairing purposes of pipe lines as well as hand pumps could be purchased and given to the Gram Panchayats. At the same time, interested people from the Gram Panchayats could be selected and trained under TRYSEM programme for maintenance of water schemes. Thus people's participation in terms of identifying the perennial source of water (for piped water schemes), installation of piped water lines and their maintenance would not only reduce unnecessary waste, but also help making schemes functional.

Another distressing feature of present administration is the existence of multiplicity of agencies or committees with no inter-agency coordination indeed. In this regard, the administration of rural drinking water supply in U P is no exception. As already pointed out, a number of organisations/departments, viz., Jal Nigam, Jal Sansthan, Gram Panchayats and Rural Development Department are involved in the planning, implementation and maintenance of rural drinking water programme and at no stage, these organisations meet together and chalk out the strategy of the programme in an integrated manner The Jal Nigam hardly knows the drinking water schemes envisaged and implemented by Rural Development Department for weaker sections of the society and their location., Therefore, these many organisations could be rationally amalgamated into one agency which should be responsible for planning and implementation of the programme. The maintenance of the schemes should solely be given to Gram Panchayats. The Gram Panchayats could be assisted by some mobile units consisting of a Junior Engineer, a mechanic and one lineman, keeping in view the number of schemes could be introduced, each having a cluster of villages under its control. It should be a part of their duty to make regular visits to the villages, under their command. This would ensure regular and efficient maintenance of the completed schemes.

The poor maintenance of the schemes is no doubt the biggest problem but not the only one. A number of schemes either piped water or hand pumps are non-functional because the origins of water have dried up. This is very pronounced in U.P. hills. For this, apart from other factors, the Jal Nigam is no less responsible for poor designing of the schemes. The

natural water sources like springs or rivulets tends to dry up in summer or the discharge is reduced considerably. Thus, schemes designed on the basis of the discharge during seasons other than summer tend to become-non-functional. Therefore, while designing the drinking water schemes, search for a perennial source should be made and selection of the source should be on the basis of last two or three years minimum recorded discharge of such sources. Further, while designing the schemes, factors like minimum water requirements of the people and population growth, etc. should also be taken care of. Ecological factors like afforestation, soil conservation and other preventive measures, though not come under the purview of Jal Nigam, will play a vital role in the conservation of water sources and help rural people obtain sustained supply of drinking water □

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(Contd. from page 14)

3,500/- crores Of these, about 80,000 MT are exported, earning foreign exchange worth Rs. 300 crores. These figures represent 4% of the volume and 8 to 9% of the value of production of spices in India

Over the past 10 years the world trade in spices increased at an annual rate of 4 per cent in volume and 15 per cent in value India's share of the trade has also been sizeable as it is about 20 per cent in volume and 21 per cent in value According to projections made, earnings from shipments of various spices are set to more than double to $ 3 billion in the next decade Plan to increase the exports by nearly 1 lakh tonnes to 1.80 lakh tonnes designed to boost the exchange earnings twofold to Rs 600 crores have been drawn up

Future Strategies

The country is faced with an uphill task as the average productivity in India is one of the lowest in the world India runs the risk of becoming a net importer of spices unless a considerable increase in production and productivity is ensured in the shortest possible time On the whole, there is an urgent need for harnessing the latest technique in developing better planting material with the help of most modern tools such as, colonal planting etc and bio-technology Well organised research network is needed with a mandate to release varieties with package of practices having ont only the high yielding character but should yield quality products under various agro-climatic zones of the country Development and promotional schemes should be designed so that farmers are provided with superior varieties, processing and marketing facilities and post harvest technology. Concerted efforts should be made to assess the export potential of different spices including export markets. Finally full advantage must be taken of the most suitable agro-climatic conditions and manpower strength so that production and productivity of these high valued crop spices are enhanced. □□□

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(Contd. from page 18)

get a uniform treatment regarding financial assistance and rehabilititation package etc.

(5) The promoters should also come forward in the process of revival of sick industrial units by contributing by way of interest-free funds, paying of the institutional funds with the interest due and by deferring the repayment of loans and deposits brought in the units by them and by their friends and relatives.

(6) To meet out the problem of industrial sickness, the sick industrial units may be leased out to other healthy units or they may be merged or amalgamated with the other viable units thus, inducting new enterpreneurs and new management at the helm of the affairs of these sick units.

The contribution of the financial institutions and the banks for the viability of sick units can not be over-emphasised. Lending agencies should provide assistance to these units for purchasing necessary equipments and ingredients or additional machinery and provide margin money for additional working capital and for meeting the cash losses. They should also statutorily lay down the criteria for funding or writing off of overdue interest and defer the payment of loan instalments

All the sick units do not have financial problems If the industrial sickness is due to reasons other than financial appropriate and relevant remedial measure should be taken. For example, if the sickness is because of managerial deficiency, a change in the existing management can only solve the problem.

On the front of the labour cost and existing labour in the concern, something may be done for the revival of sick units by freezing of labour remuneration at the existing level for a specified period. Extra labour and inefficient employees may be retrenched.

Conclusion

In India, sickness of industrial units has assumed alarming proportions. Among the agencies which are engaged in the process of rehabilitation and nursing package, banks have to play the most important and effective role. Before nursing these ailing industrial units and providing finance for their revival, the banks should streamline their lending criteria with the active co-ordination of other agencies involved in the process At the same time, only those units should be covered under nursing programme or revival package which are potentially viable and the units which are purely non-viable should be allowed to die lest they should make their lending agencies sick and non-viable. □□□

MES scheme

The Scheme of Minimum Economic Scale (MES) of operations was introduced in 1986-87 to enable industrial undertakings to expand their installed capacities to economically viable scales of operation. With the addition of 11 more items during 1988-89, the total number of industries covered under the scheme stands at 84. Besides, minimum economic capacities have also been increased in respect of five industries.

The Scheme of Re-endorsement of Licensed Capacity was announced in January, 1986 in order to encourage fuller utilisation of capacity and maximisation of production. A new scheme of re-endorsement of capacity has been introduced with effect from April 1988. The salient feature of the scheme is that it allows automatic re-endorsement of capacity annually achieved by an industrial unit in any year between April 1, 1988 and March 31, 1990. It applies to all types of industrial undertakings without any locational restriction.

Investment climate

The investment climate in the country has been buoyant and there has been substantial growth in the aggregate financial assistance provided by the Central and State Financial Institutions during the year 1987-88. While sanctions recorded a growth of 16.5 per cent, disbursements rose by 19.9 per cent over the previous year. This momentum has continued during 1988-89 as well. During the first six months of 1988-89, total sanctions amounted to Rs. 7,548 crores, showing an increase of 80.8 per cent and disbursements amounted to Rs. 4069 crores registering an increase of 28 per cent over the corresponding period of 1987-88.

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All-round growth in agriculture in VII Plan

Indian agriculture has witnessed multi-dimensional growth in the first four years of the Seventh Plan culminating in record production of several crops and phenomenal expansion of supporting sectors in 1988-89.

Going by the figures supplied in the latest Annual Report of the Department of Agriculture & Cooperation (Ministry of Agriculture), Indian agriculture has also shown higher resilience in recent years and has been able to withstand a severe drought in 1987-88 with a mere marginal fall of 3.5 per cent in foodgrains production. The production of foodgrains in that year was higher than the average production of the VI Plan with much more favourable weather conditions.

The likely foodgrains production in 1988-89, the report says, would be 166.5-171.0 million tonnes, above the previous best production of 152.4 million tonnes in 1983-84.

Several Thrust Programmes initiated in the VII Plan gave excellent results. While the record food grains production in 1988-89 was possible because of the special Foodgrains Production Programme (SFPP), the Special Rice Production Programme (SRPP) resulted in record production and productivity of rice in five out of the six eastern states in which the Programme was implemented. In fact, 88 per cent of the incremental production in rice in these years has come from the eastern region.

The other Thrust Programmes, to boost agricultural production through incentives to the farmers for increasing productivity, include National Pulses Development Programme (NPDP), Assistance to small and Marginal Farmers for increasing agricultural production, National Oilseeds Development Project (NODP), National Watershed Development Programme for Rainfed Agriculture, and Intensive Cotton Development Programme. The special focus under these programmes is on small and marginal farmers. □□□

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Next issue
WOMEN

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FISCAL POLICY

yojana

Rs.



Jawahar Rozgar Yojana

"There is no problem before the country so accurate as the problem of unemployment and under-employment. There is no segment of our population more disadvantages than the rural poor. Unemployment is one of our major problems. We can not remove it by magic. But we should be able to guarantee employment...." said Jawaharlal Nehru. To guarantee employment to the poor in rural India, Centre has launched a programme called Jawahar Rozgar Yojana on 28th April 1989. Central assistance will finance 80% of the programme. In its very first year of operation, that is the current fiscal year, Central assistance for this programme will amount to Rs. 2100 crores. Funds will be allotted to States in proportion to the size of their population, which falls below the poverty line. The further devolution of these funds to districts will be determined in terms of criteria of backwardness such as the share of the scheduled castes and scheduled tribes in the total population of the district, the proportion of agricultural labour to total labour and the level of agricultural productivity. Special consideration will be given to meeting the requirements of geographically distinctive areas such as hills, deserts and islands. It is expected that on an average a village panchayat with a population of three thousand to four thousand people will receive between Rs. 80,000 to Rs. one lakh a year to implement the Jawahar Rozgar Yojana. It is expected to provide employment to atleast one member of each poor rural family for fifty to hundred days a year at a workplace near his residence. It is hoped to incorporate into the programme integrated schemes to provide employment to nomadic tribes. A very special feature of this scheme is that 30% of the employment generated will be reserved for women.

All existing rural wage employment programmes stand merged in Jawahar Rozgar Yojana. The Yojana will reach out all over the country to the 440 lakh families in rural India, living below the poverty line. It aims at placing in the hands of the village panchayats around the country adequate funds to run their own rural employment schemes. By devolving the finances to the panchayats and entrusting to them the administration of the programme it is expected that a large proportion of the funds than ever before to be deployed for this programme. Through the devolution of this programme to village panchayats it is hoped that the benefits of this programme directly reaching the people to be significantly higher than in the past.

A unique feature of the Yojana is that each beneficiary of this yojana will know how much remuneration he and others were getting and how many days of work is being given to them and others. Those who will be cheated or deprived will not only be allowed and encouraged to demand immediate redress, but also use the ultimate weapon in their hands to vote out of office any panch or Sarpanch for cheating and abusing or misusing his powers and responsibilities. ■■■

yojana

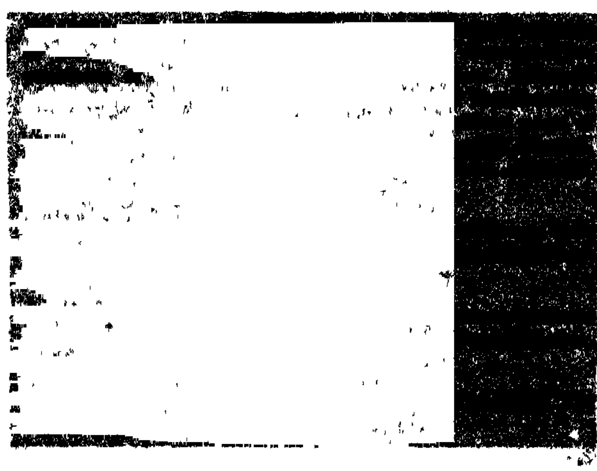
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Drought management

Dr. S.S. Khanna

Deficient rainfall during the south-west monsoon season leads to drought. The Irrigation Commission has identified about 50 million hectares of land as drought-prone areas of the country. This impact is not only on agriculture but also on economy, says the author. Mentioning drought incidences over India from 1876 to 1987, he considers 1987 as the worst drought year and analyses the steps taken by the government to combat drought. The author wishes that after every drought the government should prepare a well-documented report so that it will serve as a guidance for future.

INDIA IS A VAST COUNTRY HAVING an area of about 329 million hectares and an annual average rainfall of about 117 cms. Most of rainfall occurs during the monsoon-June to September (75% of annual rainfall). Premonsoon and postmonsoon showers account for 10-11 per cent each and the winter rains during January to December are only 3 to 4 per cent of the annual rainfall. In fact the monsoons advance in Indian sub-continent through two main branches, the Arabian Sea branch and the Bay of Bengal branch. The latter one is largerly responsible for monsoons in India.

The coefficient of variability of annual rainfall in the country generally varies between 15 to 30 per cent during the year. However, in certain parts the coefficient of variability is less than 15 per cent, such as North Eastern region, West coast and others. Rainfall is uncertain over Gujarat, Rajasthan, Haryana and Punjab. The Gujarat and Rajasthan and part of Haryana regions have the coefficient variability higher than 40 per cent. In a generalised fashion the distribution of area according to annual rainfall in India is dry: (0-750 mm) 30 per cent, medium (750-1150 mm) 42 per cent and assured (1150 to 2000 mm and above) 28 per cent. Regions with rainfall less than 400 mm form 12 per cent of the total geographical area. Based upon the distribution of mean rainfall the country can be divided into 8 major rainfall zones.

Table-1

Distribution of Rainfall in various Zones

Rainfall	*Mean annual rainfall (mm)*	*Location*
I (very low)	300	Western parts of Rajasthan
II (Low)	300-500	Kutch Peninsula, Rajasthan and Southern and south western parts of Punjab and Haryana.
III. (Low-Mod-Low)	500-800	Kathiawar peninsula, eastern-Rajasthan, Haryana, Punjab and Central Peninsula
IV (Moderate)	800-1000	Parts of Tamil Nadu, South Karnataka, parts of Maharashtra Andhra Pradesh, Gujarat and Madhya Pradesh
V (Mod. High)	1000-1500	Madhya Pradesh, Orissa, West Bengal Indo-Gangetic Plain, Coastal plains of Tamil Nadu, foot hills of Sahyadri
VI (High)	1500-2000	Western Ghats, parts of Mahanadi Basin, West Bengal plain and part of Orissa, Himachal Pradesh and Pachmari hills of M P
VII (Very high)	2000-3000	Eastern coast plains, North eastern region
VIII (Excessive)	3000	Meghalaya plateau, North Bengal plains, coastal Karnataka and Kerala

The probability of rainfall in very low, low, and low to moderately low categories is comparatively very less and also the variability is high. Thus these areas suffer from recurrent droughts. Rainfall is considered as normal when the percentage departure is plus/minus 10 of the normal.

Deficient rainfall during the South-west monsoon season leads to drought which as per Indian Meteorological Department area receiving less than

75 per cent of the normal value in a meteorological sub-division is declared as drought affected zone. Further, it is classified as moderate and severe, if the seasonal rainfall deficiency is between 26 to 50 per cent and more than 50 of the normal, respectively. A drought year is defined as the year wherein the area affected by moderate or severe drought conditions, either individually or together is more than 20 per cent of the total area of the country. The Irrigation Commission has identified about 50 million hectares of land as drought prone area of the country, as in these areas the hydrological cycle is also affected. Thus the impact is not only on agriculture and ecosystem but also on human beings, livestock and economy in general.

Drought incidences over India (1876 to 1987)

On the basis of the classification, as mentioned earlier, the deficient monsoon years during the period from 1875 to 1988 were :— 1877, 1899, 1901, 1904, 1905, 1911, 1918, 1920, 1940, 1965, 1966, 1968, 1972, 1974, 1979, 1982, 1986 and 1987.

The drought years alongwith their intensity and ranking are presented in Table-2. However, the years which experienced severe or higher intensity droughts were 1877, 1899, 1918, 1972 and 1987. The worst affected year when nearly 69% of the area of the country reeled under heavy water stress and food scarcity conditions prevailed was 1918.

Another noteworthy observation from Table-2 is that, contrary to earlier belief, drought in India could occur for three consecutive years as it happened from 1883 to 1885 and 1985 to 1987. Occurence of drought in two consecutive years was observed on 7 occassions, viz 1876-77, 1901-02, 1904-05, 1951-52, 1965-66, 1968-69 and 1971-72

Eventhough the country may not suffer from drought, a region/zone may still have deficient rainfall because of this consecutive nature of tropical rainfall. After detailed analysis it has been found that once in 5 years, a fifth of the area of the country can be expected to experience drought conditions. The drought area may be about 35 per cent once in 10 years, 45 per cent once in 25 years and 55 per cent once in 50 years However, the occurence of drought could be a random phenomenon. If more than 65 per cent of the total area of the country is affected by drought, it is severe, which is extremely rare.

Last year the rainfall was good throughtout the country except in Chattisgarh area of Madhya Pradesh where it was scantly. Similarly during 1943 a calamitous condition existed in Bengal which resulted in a famine in the region.

Bengal Famine

The Bengal Famine Enquiry Commission remarked: "It has been for us a sad task to inquire into the course and causes of the Bengal famine. We have been haunted by a deep sense of tragedy. A million and a half of the poor of Bengal fell victims of circumstances for which they themselves were not responsible. Society, together with its organs, failed to protect its weaker members. Indeed, there was a moral and social breakdown, as well as administrative breakdown."

Drought of 1987

In Table 3 the rainfall pattern and the number of meteorological sub-divisions falling into each category have been mentioned, which indicates that during the year 1987 only 2 subdivisions received excess rainfall; 11 normal and 19 deficient including 3 scanty. On the other hand in 1979 the category-wise rainfall distribution was: 3 in excess, 15 in normal and 17 in deficient. It is, therefore, evident that the drought of 1987 was much more serious as compared to 1966 and 1979.

Furthermore, out of 384 districts for which rainfall data are available for the period 1.6.1987 to 9.9.1987 only 31 districts had excess rainfall while 122 districts had normal rainfall. The rainfall was deficient in 158 districts and scanty in 52 districts.

Fifteen States and six Union Territories were affected due to drought conditions. In all 267 districts, 2.55 lakh villages, 28.54 crore population and 16.81 crore cattle population were reported to have been affected by the drought.

The Government of India in collaboration with the State Governments took special measures and initiatives so as to mitigate the bad effect of drought. A Conference of Chief Ministers was convened by the Prime Minister on September 3, 1987. In this Conference it was decided to work in unison by taking relief measures so as to face the drought on war footing. It was also felt that personal efforts would be made by the Chief Ministers in the execution and implementation of the programmes.

Some of the relief measures taken included:—

(a) Supply of drinking water and also develop a medium term programme for ensuring the supply of drinking water in towns having 20,000 to 1 lakh population and having chronic shortage of drinking water.

(b) Special fodder plan for Rajasthan and Gujarat were drawn up by using the modern technology.

(c) For overcoming nutritional disorders in children, expectant and nursing mothers—old and infirm, special nutrition programme, relief and public health measures were adopted.

(d) For enhancing the production and productivity of various crops by executing 54 major irrigation projects, 32 medium and minor irrigation projects on priority basis were sanctioned.

(e) For a long term measure the drought proofing programmes have been prescribed, such as tubewell installation, ponds and field channel constructions, establishment of soil conservation and water harvesting structures and laying the roads where road links do not exist.

Central assistance to the tune of Rs. 1511.93 crores was approved/sanctioned to the nineteen States/Union Territories for tackling the situation created by drought in 1987.

Special relief measures were adopted for severely drought affected areas which were largely for thirty six blocks of Gujarat and thirty seven blocks of Rajasthan.

For effective implementation of the programme the monitoring and reporting machinery was set up both at the Central and State levels. This cell was to ensure that (i) relief has reached the needy person and execution has been done as was planned and sanctioned, and (ii) funds have been invested in creation of durable assets.

The lesson we learn after facing this drought is that long term strategies to comabt the drought effects should be well chalked out and while formulating each year's plan of action, a Contingency Action Plan should be included as a regular feature.

Recent Droughts and Foodgrain Production

Data given in Table 4 indicate that in the recent past, in the years of drought, the production and productivity of foodgrain crops had declined but the decrease was marginal. Another striking feature that one finds is that after making a comparison of the annual compound rate of growth of foodgrain production the decline in Kharif crop had been much more as compared to Rabi crops. While analysing the data of the slight drought category of the year 1966-67 as compared to 1986-87 the annual compound growth rate of Kharif was of the order of 2.6 per cent while that of Rabi was 4.6 per cent and for the total production it was 3.4 per cent. With respect to moderate category the annual compound growth rate between 1974-75 and 1985-86 for Kharif, Rabi and the total production were 3.4, 4.4 and 3.8 respectively. Comparing severe drought years of 1972-73 and 1987-88 the Kharif production growth rate was 1.6 per cent, Rabi was 3.5 per cent and the overall foodgrain production was 2.4 per cent per annum. All this indicate that resilience in agriculture has taken place and the agriculture production and productivity will increase provided the dissemination of well proven technology, availability of inputs, marketing support and credit supply system are well-managed, and the drop in foodgrain production will not be to the level as has been in the earlier years. Since wheat is mostly grown in irrigated areas to the extent of 65-70 per cent the production and productivity of this crop is normally not affected much by droughts. Of course, the coarse cereals and pulses which are grown mostly in unirrigated areas (more than 90%) their production and productivity is directly dependent upon the amount and pattern of rainfall in the region.

Technology back-up

Technology is often considered as hardware production or end product of the scientific investigation in agriculture. Thus it is important in the agriculture sector to develop technology for each agro-climatic conditions and specific to the region sub-zones. It would be worthwhile to mention that for management of drought the technology so developed should encompass management, socio-economic condition of the people, institutional and motivational mechanism involved in the whole process.

Rainfed areas of the country constitute 70 per cent of the culturable lands. These soils are not only thirsty but hungry too, as very little fertiliser is used in these soils and thus these soils have been impoverished of plant nutrients. It is, therefore, necessary that the technology should be such which not only saves these soils from denudation/degradation but also bring forth the desired fruits under moisture stress conditions. Naturally the agro-climatic zonal planning becomes paramount for achieving the desired potential from the area.

A remarkable increase in yield potential can be achieved if the soil data with respect to texture, depth, slope, drainage, erosion, salinity/alkalinity/acidity, rainfall and temperature during crop growth, type and variety of crop, length of growing period of crops, availability of surface and ground water etc. are taken into consideration through a system approach. Certain models could be prepared and tested under field conditions.

Irrigation

In order to reduce the impact of drought the emphasis has been to increase the area under irrigation. It has increased more than three fold as compared to 1950-51.

In the multipronged strategy by the Task Force for Special Foodgrains Production Programme, there is provision for assured irrigation through both major and medium irrigation projects and minor irrigation schemes. The ground water resource potential of the country was examined and Centrally Sponsored Project (free boring facility) was launched. Six lakh shallow tubewell installations were sanctioned for the year 1988-89. This would provide greater assurance to the farmer as the supply of water can be regulated according to his wishes, depending upon the need of the crop and soil.

Similar programme has been sanctioned for the year 1989-90 and we hope to continue it during the Eighth Plan. In fact, the conjunctive use of surface and ground water in canal irrigated areas is very vital for achieving the desired yield. Another aspect which is often ignored that installation of tubewells in the canal irrigated areas also provide an assured irrigation facility on a vertical drainage system. Thus the recycling of salts takes place and the hazard of salinity/alkalinity build up is also avoided. Around the country there exists about 42 m. ha./year utilisable resource of ground water. Out of which only 25 per cent is being utilised.

Land and Water Management

The country is endowed with the good cultivable land and gets the highest precipitation on per unit area basis anywhere in the world. Total precipitation received in a year is about 400 m.h.m. Water and land use policies have to be formulated for each agro-climatic zones of the country. The policy has to be such which provides protection to the land in the catchment area to avoid erosion of soil cover and save the soil from degradation and denudation.

In drought prone areas, it should be our effort to evolve plans for maximising the water use and efficiency and conserve each drop of rain wates in the soil plant system.

System Approach

For a better drought management for specific area the farming system research network is badly required. This, of course, has been talked about quite often but no fruitful results have been achieved thus far. Much work has yet to be done on land and moisture management, contingency planning for crop and livestock, establishment of mixed fuel, fodder and timber plantation. The strategy has to inter-link the crop-livestock-fisheries, farm forestry and silvi-pasture programmes and dovetail these depending upon the need of the area. The system approach is to be adopted for the better management of land and water. The agro-climatic zone planning teams may come out with well drawn strategies for the 15 agro-climatic zones delineated by the Planning Commission for the country as a whole. It should be our endeavour to see that all inputs and requirements with a time frame and duly prioritised are indicated, so that maximum potential of the area could be exploited so as to get the desired production and productivity from each economic activity.

Since the recurrence of drought is going to take place in about 2-3 years out of each plan period, a well drawn contingency planning for each drought prone area (s) for combating the drought is a must. We may have to go for seed stocking, fodder banks for cattle, storing adequate water in dams, tanks, check dam, in soil matrix (in situ) and adequate food supply. Both short and long term planning is required for each area and a set of prescription for each problematic situation has to be well conceived and listed. Of course, these may have to be modified/altered depending upon the gravity and extent of the area affeted by drought.

A detailed study is required by the Indian Council of Agricultural Research and Agriculture Universities network to develop technology for each drought prone areas of the regions based on probability distribution of cumulative annual rainfall, soil type, topography and socio-economic conditions of the people. A thorough understanding is required of different crop growing environments– rainfall intensity, amount of distribution, minimum and maximum temperature, vapour pressure, saturation vapour pressure deficit, relative humidity, sunshine, solar radiation, wind speed, potential evaporation, water holding capacity of the soil etc. Another aspect that needs to be worked out by genetic engineering is to evolve varieties which are suited for the rainfall intensity and duration of the area and are resistant to water stress. Our efforts should be to see that from per unit of area maximum production and productivity is achieved. It is also necessary to develop low volume, high value crop for such areas which would be able to give higher return to the farmers. The credit supply system has to be different than what it is for the irrigated and assured rainfall areas. In fact the need is to develop strategies, programmes, projects etc. for each area depending upon the category of drought. It is therefore imperative that much more research and socio-economic studies are needed for better management of drought.

Approach and strategy to drought management

With the network that the Indian Meteorological Department has developed and the modernisation which has taken place due to installation of Super Computer an advance planning for Drought Management can be done. In the Government of India a Committee of Secretaries on Drought has been set up under the Chairmanship of the Cabinet Secretary to closely coordinate and monitor the actitivites of Central Minstries/Departments and the State Governments in regard to drought. The Committee of Secretaries is serviced by the Department of Agriculture & Cooperation. A full time Relief Commissioner has been appointed. The Action Plan is drawn well in advance looking into the needs of the area and various actions are intitiated on priority basis:

1. Preparation of water budgets, to optimise the use of water available in the reservoirs and utilisation of groundwater resources. 2. Undertaking appropriate contingency measures and supply of adequate power in the agricultural sector so as to minimise crop losses. 3. Effective steps to provide drinking water to the drought affected population. 4. Strenghening of the Public Distribution System. 5. Public health measures and providing supplementary nutrition for the young and needy children in the drought affected areas, and 6. Measures to provide adequate fodder and nutrients for the health and preservation of cattle.

Besides the above mentioned programmes it should also be examined to what extent loss in foodgrains production in Kharif crop takes place and how can the loss be minimised by resorting to effective agricultural contingency plan. The State Governments and concerned authorities are to be consulted in the formualtion of specific measures at the field level. The vital aspect is that as and when the rainfall takes place in the area the crops which can be sown in that season/month are planted by making available the seed and variety of the crops grown in a short period

and thus the contingency planning is the only answer. Another aspect which should be examined in depth is increasing the area coverage under Rabi crop, better water management and intensive use of technology, package of extension input. It is the endeavour of the Government of India to provide relief to drought affected areas on priority basis so as to have employment generation, availability of drinking water, fordder availability for cattle, supply of essential inputs and drought proofing.

In the drought affected areas a multi-pronged strategy is chalked out to tackle problems of drinking water by adopting scientific methods for identifying underground water resources, construction of large number of water harvesting structures, steps to prevent drawal of ground water around urban agglomeration and conservation of surface water.

All this indicates that lot of coordination, cooperation and collaboration is required at the Central, State, District, Block and Panchayat level. Thus, the monitoring and implementation of drought relief programmes and ensuring better execution (the well drawn programme is a must. It is, therefor important that besides the machinery involved in th execution of the programme, monitoring and evaluatio machinery should be simulteneously working t release information to the Central as well as the Stat Governments directly. This would not only hel proper planning and dove-tailing while formulatin programmes but would also give feed back fc reorienting various schemes/projects. It would als help in the formulation of various programmes fc future After every drought a well documented repo should be released by the Government of India so th due advantage can be taken in future from thes experiences □□□

Table 2

Years of Drought in India

Year	Area affected (x10 sq. km)	% area of the country affected	Category	Ranking
1.	2	3	4	5
1876	0 49	15 8	Slight	34
1877	2.03	64 7	Calamitous	2
1883	1.03	32.8	Moderate	13
1884	0.70	22 2	Slight	26
1885	0 48	15 4	Slight	35
1891	1.15	36 7	Moderate	9
1896	0 68	21 7	Slight	27
1899	1 99	63 4	Calamitous	3
1901	0.89	28 5	Moderate	20
1902	0.54	17 1	Slight	33
1904	0.98	31 1	Moderate	16
1905	1 09	34 7	Moderate	10
1907	0.85	27.2	Slight	22
1911	0 97	30 8	Moderate	17
1913	0 70	22 3	Slight	25
1915	0.63	20 2	Slight	30
1918	2 16	68 7	Calamitous	1
1920	1 22	38.8	Moderate	8
1925	0.80	25.5	Slight	24
1928	0.67	21 4	Slight	28
1936	0.86	27 6	Slight	21
1941	1.01	32.3	Moderate	15
1951	1.04	33 2	Moderate	11
1952	0.81	25.8	Slight	23
1965	1.35	42.9	Moderate	6
1966	1.01	32 3	Moderate	14
1968	0.45	20.6	Slight	29
1969	0.62	19.9	Slight	31
1971	0.42	13 3	Slight	36
1972	1.39	44.4	Severe	5
1974	0.92	29.3	Moderate	19
1979	1.24	39.4	Moderate	7
1982	1.04	33.1	Moderate	12
1985	0.95	30.1	Moderate	18
1986	0.60	19.0	Slight	32
1987	1.55	49.2	Severe	4

Table 3

Rainfall patter in different Meterological Divisions

Years Week ending on	1966 10/9	1979 9/9	1982 8/9	1983 7/9	1984 12/9	1985 11/9	1986 10/9	1
1 Excess	2	3	x	10	4	2	x	
2 Normal	17	15	20	21	21	22	19	
3. Deficient	13	17	14	4	10	11	16	
4. Scanty	—	x	x	x	x	x	x	
5. No rain	x	x	x	x	x	x	x	
6. Data inadequate	x	x	x	x	x	x	x	
7 Total	32	35	35	35	35	35	35	

Table 4

Seasonwise Foodgrain Production of Recent Drought Years (in million tonnes)

Year	Drought Category	Kharif	Rabi	Total Pr ductu
1966-67	Slight	48 89	25.34	74.
1968-69	Slight	59 57	34 44	94
1969-70	Slight	62 35	37 15	99
1971-72	Slight	62 99	42 18	105
1972-73	Severe	58 64	38.39	97
1974-75	Moderate	59 10	40 73	99
1979-80	Moderate	63 25	46 45	109
1982-83	Moderate	69 90	59 62	129
1985-86	Moderate	85 25	46.22	150
1986-87	Slight	81 53	62 54	144
1987-88	Severe	73.89	64 52	138

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Tapping energy potential fron sea waves

Scientists have established that waves lashing the se coasts in India have substantial energy potential.

The Department of Ocean Development ha sponsored a project on power production from waves t the Indian Institute of Technology, Madras.

A pilot plant on wave energy utilisation is bein established at Vizhinjam, Kerala. The constructio work on civil structure, mechanical and electric devices required for the proposed plant is in progres

Tasks before the 8th Plan

H.H. Ulivoppa

If Indian economy were to enter into the 21st century as it has wished, it has to redesign its economic policies, keeping in view the tasks of today and the goals of tomorrow says the author. The growth strategy has to be redesigned keeping in view the country's enhanced need for self-reliance. For this, an efficient and flexible industrial structure is an imperative need says the author. Since ours is a rural society, Gandhian approach on village oriented and decentralised planning system must be kept in mind, while thinking about eighth plan, he adds.

THE MAIN OBJECTIVES OF PLANNING in India have been growth, modernization, self-reliance and Social justice Nearly four decades have passed since India started her journey on the path of planned economic development. However, the experience has evoked reactions of diverse nature regressed from great optimism to exaggerated dispair as the performance of the economy has been both remarkable and disappointing Though Indian economy has made significant strides in terms of agricultural growth, of establishment of a diversified industrial structure and of the growth of scientific and technical manpower, it has not succeeded either in becoming self-reliant or in the direction of providing social justice to the needy by removing poverty and unemployment. The poor performance of the economy during 1970's resulted in a believing that the country had been caught in the trap of low growth rate-vicious circle-and there could be no easy way out. However, the pessimism of the seventees have been replaced in public mind in early Eightees by renewed optimism in the economic future of the country. Such an optimism has been further strengthened by the hope that India would enter the 21st century as a self-reliant country capable of meeting the needs of its people. Is there an objective basis for such optimism and hope? What are the tasks of today for achieving the goals of tomorrow to make economy move on to the path of rapid and self-sustained growth?

In answering these questions we have to look at the underlying economic realities as well as analyse the interactions of various factors that have influenced and governed the process and the path of development. For, our experiences have shown that these forces could impede as much as accelerate the impulses for growth If Indian economy intends to enter into the 21st century, as it has wished, it must redesign its economic policies keeping in view the task of today and the goals of tomorrow. The present paper makes an attempt to stress the tasks of today before the Eighth plan in India in order to achieve the goals of tomorrow. In this context, a look at the profile of the economy during 7th plan period and also at the proposed strategy and objectives of Eighth plan is essential

Eighth Plan strategy and objectives

Planning is a continuing process As currently the country is passing through the final year of the seventh plan, the Eighth Plan exercises have begun. The eighth plan, the period of which begins on 1st April 1990, will take over the economy from the point to be achieved by the Seventh plan Hence, the state of economy in course of seventh plan will determine to a large extent the content and direction of the Eighth Plan Since the 7th plan has been formulated in the background of a 15 year's perspective plan extending to the end of the present century; the seventh plan has been heralded as a vehicle for taking India to the 21st Century. The seventh plan perspective also indicated the macro-objectives of the Eighth and Ninth plans. Thus eighth plan is not a fresh exercise as has been purported to be made out.

The planning commission has met twice during 1988 under the chairmanship of the Prime Minister to formulate guidelines for the Eighth Plan. The Prime Minister has given som guidelines to the Planning Commission for preparing the "Approach document"

The Prime Minister is reported to be of the view that earlier steps and attainments have generated a sense of self-confidence in the country. Hence, the nation is prepared for taking bold initiatives in the economic field.

It appears that the Planning Commission is exercising on three alternative models for securing a growth rate of 5.5%, 6%, or 7%. The present mood of the Government appears to go of a middle course i.e. a 6% growth rate.

It is also reported that decentralisation of Planning is stressed as the best strategy, the objectives include near full employment and eradication of poverty. More rural programmes for creation of more productive employment opportunities is the proposed means for the attainment of the twin objectives. In more concrete terms, the Eighth Plan would be directed to fulfil the aspiration of the people for a sustainable source of livelihood. Providing basic requirements of food, clothing, shelter, energy, clean water, education and health would remain the central theme of the Eighth Plan. Distribution of growth between regions and between groups, strengthening of domestic capabilities for independent action, and removal of structural deficiencies in backward areas are also its important objectives. It is also proposed to spell clearly the efficiency targets and steps for achieving them Sector by Sector and industry by industry. At present estimates, the plan would entail a total outlay of Rs. 6,50,000 crores against Rs. 1,80,000 crores of the Seventh Plan.

Problems and tasks before Eighth Plan

The growth strategy has to be designed keeping in view the country's enhanced need of self-reliance. For achieving the growth rate of 6%, incremental capital output ratio (ICOR) has to be decreased to 4.35 from the present level of 4.6, efficiency of the economy has to be improved, saving and tax ratio of Gross Domestic Product (GDP) have to go up to 27% and 20% respectively from the present rates of 22% and 17% and the growth of exports to around 10% in volume. At the outset, the growth target appears to be attractive and advisable too keeping in view the recent trends in the economy. But the matter is not so simple. Because this target is not in keeping with the realities and requirements of national economy.

Table

Profile of economy during Seventh Plan Period

Indicators	*Level in 1984-85*	*1985-86*	*1986-87*	*Likely 1987-88 level*	*7th Plan target*
Macro balances:					
Growth rate	5.2	5.1	4.5	3.0	5.2
Ind. growth	8.0	8.7	8.9	7	8
Agr. growth	4.3	1.9	3.0	–2	4
Savings rate	16	16.6	18.2	n.a	24.5
Investment rate	17	19.3	20.2	n.a.	25.9
NNp (Rs. Cr.) at currentp.	174,018	195,707	242,080	n.a.	248,881
Per capita In. at current p	2,335	2,595.6	3,211	md	3,027
Financial Aspects and Prices:					
Inflation rate:					
whole PI	7.4	5.8	5.3	– –	
CPI	6.4	6.5	8.7	–	–
Purchasing power of rupee (paise)	18.87	–	15 18	15.0	–
Poverty line Rs. URBAN	121	–	–	145	–
RURAL	109	–	–	133	–
Population below poverty line: in per cent	36	–	–	–	25.8
in Million	272.7	–	–	–	210.8
Deficit Finance (Cr)	15,684 (Total)	4857	8285	5688BE	14000
M3 stock (Cr)	102,388	118,338	140,256	–	–
Plan outlay (Cr)	110,111	34,579.4	39,051.5	44,699	180,000
Production:	(Total)				
Foodgrains (m.t.)	145.54	150.47	140.00	141	178.83
Power generation-MKWh	156.97	170.045	187.988	199.000	295.4
Coal m.t.	155	162.3	165.79	–	236
Petroleum m.t.	33.23	30.2	30.5	–	45.06
Saleable steel m.t.	7.7	7.2	8.2	–	12.64
Cement m.t.	29.5	32.0	34.0	–	39.1
Fertiliser m.t.	6.57	6.57	–	–	1.5

Source: Compiled from publication of Government, RBI, CSO etc.

Ofcourse, such a high rate of growth is required at present not only to alleviate poverty and ensure social justice, but also to maintain the position of the country in the international economic sphere. But it does not appear to be based on realism For, even if we take the preliminary estimates of planning commission about the size of the plan at Rs. 6,50,000 crores, with an ICOR of 4.1 and saving rate of 24%, the availability of resources taking into account additional resources mobilisation by such measures as an increase in the tax GDP ratio and a phenomenal step up in the public saving s, has been estimated at Rs. 5,31,000 crores implying a resource gap of Rs.1,20,000 crores. But again moderated now in ICOR from the present 4.6 to 4.35 for the 8th plan implies that the plan outlay would now go upto Rs 6,99,000 crores However, a realistic look of the trends of ICOR keeping in view the Governments' emphasis on high technology may not allow us to presume the ICOR at less than 4.5 which puts the estimated plan outlay at Rs. 7,13,500 crores. In any case, the saving rate is not going to rise above 25% and hence there will be a resource gap of around Rs. 1,50,000 crores. We may narrow down this gap by improving the tax-GDP ratio, the efficiency in the Public undertakings and also by curtailing government consumption expenditure along with reduction in subsidies This is possible only at "the government will" to do so; failing which will make the economy to opt for more external asistance and heavy dose of deficit financing which will increase the external dependence of the economy and also the rate of inflation to around 10-12% from the present level of 8% per annum-further enhancing the plan outlay and the vicious circle will perpetuate with high pressure of inflationary spell. Thus, the planning commissions presumption containing the rate of inflation at 5% per annum during the 8th plan also appears to be rediculous Further, mere attaining /achieving high rates of growth with the help of the techniques of development borrowed from the affluent societies does not solve the major as well as basic problems of the people

tasks

If we are at all serious about securing the country's future-indeed its very survival and to make the country as self reliant and also capable of meeting the needs of its people while entering the 21st century, the mistakes we have made in the past by blindly emulating the development paradigm of industrialised countries have to be corrected with utmost energy and determination In this connection, same of the major tasks that are to be taken care of by the planners in planning may be outlined below.

Programme of development

The programme of development which was set during the Seventh Five Year Plan against the perspective of 2001 A.D. includes the elimination of poverty, creation of conditions of near full employment, the satisfaction of the basic needs of the people in terms of food, clothing and shelter, attainment of universal elementary education, provision of health facilities to all, attainment of self-sustaining growth in terms of both the capacity to finance growth internally and development of technology, efficiency improvement in the sphere of industry to attain international competitiveness in major products, development of technology and modernization with expanding capacity to provide the basic material and cultural requisites of well being for all people by the year 2000 A.D. The attainment of these goals requires:

(i) Action to sustain and enhance the momentum of economic expansion and technological development.

(ii) adoption of effective promotional measures to raise the productivity and incomes of the poorer sections of the production. poorer regions and poorer states.

(iii) Expansion and quantitative improvement in facilities for health, education and other civic amenities.

(iv) Measures for bringing about a sharp reduction in the rate of population growth.

The demographic perspective provides the starting point for determining the long term developmental strategy. In this connection, creation of opportunities for productive employment of a growing labour force assumes prime importance. We must create productive and satisfying job opportunities in rural areas through development of agriculture, irrigation, rural infrastructure and promotion of village and cottage industries. In view of the importance of agriculture in the Indian economy, continued fast agricultural growth and self sufficiency in food must continue as a top priority concern of planning. In planning for food self sufficiency, adequate and balanced attention must be given to the production of cereals, oil seeds, pulses, fruits and vegetables and protective foods like milk, eggs, meat and fish. In short, our concentration must focus on fuller utilisation of land and labour. The productivity of land must be raised stimulating growth and making backward regions prosper. At the sametime a policy of full employment can be pursued. Towards theend, we must maximise the production of wage goods and pay greater attention towards improving the qualities of life of the people.

Structural changes

The most important structural changes need to be brought before the country enters in to the 21st century must be the accelerated rate of growth of industry and its much greater relative contribution to national output and employment. There is an imperative need of an efficient and flexible industrial structure to sustain the country's export drive as well as to meet the input requirements of agriculture and the increasing demand for wage goods. Thus, Indian industry has to grow at 9-10 percent during the remaining period of 20th century. Besides, the quality of education needs to be upgraded so as to make the knowledge and skills of the labour force improved in

(Contd. on page 34)

Fiscal instruments for resource gap management

Dr. Mukesh Mathur

Municipal bodies are sick to provide adequate services to their citizens due to shortage of funds. What is needed is to balance the gap by matching the obligations of municipal bodies with the available resources, says the author. So encouragement should be given to municipal bodies to develop and widen non-tax sector of their revenues. The author suggests setting up of a Municipal Finance Corporation or Board on the lines of Gujarat model to strengthen the revenue base of municipal governements.

IN THE WAKE OF RAPID URBANISATION IN the country during the past years, two important events have taken place. First, the demand for basic services such as water supply, sanitation, public health, public lighting and road network have grown exponentially-an out-come of urbanism and a fast growing urban population. Secondly, the local governments are unable to augment the facilities to keep pace with the demands for these services owing to resource constraints and other more localised factors. Although, urbanisation offers a vast scope for expanding the revenue base by increasing economic opportunities and productivity, local governments have very limited scope to raise their resources within the existing administrative and financial framework.

The Task force on Housing and Urban Development, set up by the Planning Commission in 1983 to look into issues relating to the financing of urban development has mentioned that most municipal bodies of India are financially sick to provide the adequate services to their citizens. They have mentioned that the share of municipal governments in the total tax revenues of the country had come down to about 4.5 per cent in 1980-81 from roughly 8 percent in 1960-61. This despite the fact that in the same period the urban population had increased from about 16 per cent of the total in 1960-61 to approximately 24 percent in 1980-81.

On behalf of the Eighth Finance Commission, the National Institute of Urban Affairs, in 1983, has approached the problem of assessing the gap between municipal resources and desirable levels of expenditure on basic services from number of angles. The study suggested that, even at the level of service existing in 1979-80, the municipal bodies of India needed an additional Rs. 8,330 million per annum for maintaining them, without massive capital investment in enhancement of the quality of the services.

The situation is further deteriorated during the period 1980-81 and 1986-87, as the share of municipal tax incomes in the overall tax revenues of centre, state and local government has come down from about 4.5 per cent in 1980-81 to almost 3.4 per cent in 1986-87. It may be noted that the urban population of the country had increased from 159.72 million in 1981 to more than 200 million in 1987, an increase of 25.7 per cent or 4.3 per cent per annum. All of these things are indicative of un-satisfactory levels of civic services.

It is observed that in many cases the municipal bodies are not undertaking a proper and regular maintenance of installation of water supply, sewerage and drainage system and other essential services such as roads, health units, street lighting etc., resulting in a gap between the actual and desired levels of services widening year after year. All these short comings are mainly due to shortage of funds, though some of the deficiences can be traced to indifference or inefficiency of the executive and other service personnel engaged in carrying out the civic functions.

What is, therefore, urgently needed is to balance the gap by matching of the obligations of municipal

bodies with the resources available to them. The present level of the gap can be bridged successfully.

(i) By better utilisation of domestic municipal sources.
(ii) By re-structuring the transfer of funds mechanism; and
(iii) By identifying a few new sources of funding.

By better utilisation of domestic municipal sources:

There are two main sources of domestic municipal incomes-Taxes and Non-tax resources. These two sources have shared more than two-third of the total municipal incomes. However, the municipal bodies are not exploiting their internal sources at their fullest extent, causes in considerable loss of revenues to them. Hence, for effective utilisation of domestic municipal revenues, the following step may be taken immediately:

Tax resources

An analysis of the municipal statistics at national level shows that tax revenue form the major source of municipal incomes in most states. Among various components of municipal taxes, tax on land and buildings, commonly known as the 'property tax', is an important source of municipal revenue-and the most important in states where Octroi is not levied

Property tax include a number of specific service taxes, such as water tax, scavenging tax, fire tax,k education cess, etc., which use the same tax base for assessment purposes. Therefore, an improvement in property tax valuation automatically raise the prosects for revenue mobilisation in respect of the entire group of property taxes.

The revenues from this most important tax source are affected adversely by unrealistic progression of rates and its structure, wide exemptions, and poor collection levels. To come up with these problems, it is suggested that—

— The rates and structure of property taxes should be revised periodically-once in three years to augment the revenue of municipal bodies from this source intune with the urban and economic development of the local area.
— The restrictive influence of rent control legislation on property tax valuation may be removed with a view, to decide the tax on the basis of economic and prevailing rent in the market;
— It is noticed that at present nominal service charges are paid in respect of the properties of Government of India. To widen the base of property tax, the properties of central and other governmental establishments may also be taxed accordingly; and
— It is found that on an average, only 50 percent of the total demand is collected under property taxes sector, and a huge amount of arrears are either locked up in court disputes or remained un-collected due to various reasons. To raise the efficiency in recovery of property taxes, incentive may be given to good tax payers and penal provisions incorportated for defaulters. The allowance of rebates for self-occupied properties etc., with a condition of paying upto date tax dues may be provided for. Further the inceati dues may be provided for. Further the incentive schemes for the collecting staff may be brought in vogue so that personal factor can be exploited to the maximum benefit. The case of Municipal Corporation of Delhi could be given serious thought elesewhere also.

It is important to note that level of services are generally poor in those states where Octroi have not been levied This shows that municipal bodies of non-octroi states are not getting the adequate grant-in-aid from their respective states in lieu of Octroi. The Task Force on Housing and Urban Development had mentioned that the growth of municipal taxes are particularly slow in those states where Octroi is not levied or has been abolished. Keeping in view the importance of Octroi in the economics of municipal finances, the concerned State governments should provide the adequate alternatives to Octroi and evolve a system in which municipal bodies would not loose their identity in the matter of their domestic tax base.

Non-tax resources

Keeping inview the taxation limitations and other legal constraints of municipal tax structure, the income expansion can be realised at grant extent only from non-tax sector. This sector include incomes from municipal enterprises, municipal investments and regulatory fees and such other incidence of incomes. However, it is unfortunate that non-tax receipts do not from an important part of domestic municipal revenues in many of the municipal governments of various States of Indian Union Further, statistics shows that major proportion of non-tax income has been derived from municipal properties and very marginal from any of their enterprising activities like water supply. Every encouragement should, therefore, be given to municipal bodies to develop and widen the non-tax sector of their revenues, not only by utilising the sale proceeds of municipal properties and produce of such properties (market chages, etc.) at their fullest level, but by way of proper pricing of existing infra-structure and also by undertaking additional revenue generating financially viable public activities such as distribution of cooking gas, milk supply local trans-port services, etc. However, for further development or widen the scope of this sector, municipal bodies need capital funds for investment on these projects.

If a Municipal Finance Corporation or Board is set up by the State government to meet the capital

requirements of remunerative undertakings, their is a good scope to strengthen the domestic revenue base of municipal governments to finance the various civic services at adequate level. Both Gujarat and Kerala, for example, have set up statutory financial institution in their states and the Gujarat Municipal Finance Board could be quoted as a model in this regard.

By re-structuring the transfer of funds

A lot has already been written regarding the transfer of funds from state to municipal bodies, either through devolution of share in taxes or in the form of grant-in-aid to support various functions of local government.

Studies conducted by various Institutions shows that the nature and scale of shared taxes differ from state to state and in many cases municipal bodies has not been getting their adequate share in certain revenues which have a local character and base. Some of these revenues are-Entertainment tax, Motor-Vehicle tax and real property registration stamp duties. It may be noted that motor vehicle tax was originally a domestic municipal tax, but since 1939 it has been provincialised and the municipal bodies receive compensation on the basis of revenue foregone, calculated on the average of three years' receipts immediately prior to encroachment although the original fixed compensation or share has now been given up. But generally a fixed percentage of the total receipts is distributed among the municipal bodies which have no relationship with the population growth, road length, traffic intensity, etc. As a general principle, the share of each municipal bodies in different tax sectors should be almost equal to the sum it would have raised itself at allowable rates of levy. Further, there should be a uniformity in the tax sharing components at state level, of course, with a due weigtage to the localized factors.

Likewise in the case of sharing the taxes, the grant-in-aid system in most states is confusing and largely on an adhoc basis. This has resulted in budgetary suspense, lack of capital formation and neglect of maintenance on essential civic services. Considering the defective grant-in-aid code in most states, the National Commission on Urbanisation (1988) has mentioned in its report that if the former Finance Commission (7th & 8th) has laid down principles relating to grants-in-aid to the states out of the consolidated fund of India under Article 280 (b), and stated what portion of such grants should be passed on to the local bodies and on what principles, perhaps this problem could have been overcome.

To plug the loopholes in grant-in-aid code and for effective utilisation of this source to enable municipal bodies to perform their function satisfactorily, it is suggested that—

- Every state should constitute a Finance Board on the lines of Gujarat Municipal Finance Board which will lay down the mechanism for devolution of funds to municipal l from state sector;
- There should be a periodic reveiw, say years, of grant-in-aid code and its appli by the high level expert committee to ta stock of inflation, population growt other localized and regional factors;
- Grant should be linked with the re mobilisation efforts of the municipal l
- Equalisation on the expenditure side;
- There should be a regular flow of money to avoid any level of confusi effective functioning of municipal boc

By identifying a few new sources of fur

Besides the above resource promotion appro the municipal bodies may also identify certai sources of funding specially in their domest sector which will help them in generating addi revenues for various developmental project, nc to meet the existing needs but also for expectations. However, for any kind of additio in the revenue base of municipal bodies, required a specific permission from their resp state governments to do so.

Some of the new taxes which the mun governments can levy in their areas of jurisd are-Special Conservancy Tax on Factories and business establishment, tax on floating popul Urban land tax or vacant land tax, etc..

Besides the above resource mobilisation effo attaining minimum standards of services to n down or bridge the gap between needs and ex resources, what more important is that mun bodies should economize their administ spendings and give a proper training to their o to enrich their knowledge and equip themselve the latest techniques in different fields of management.

Regarding the administrative expenditures observed that most of the municipal bodie finding it difficult to curb their expenditu establishment and staff. In number of s municipal bodies have not had the benefit of re of property taxes for the last 10 years or even and with the result the income under this head is the most important source of domestic mun revenue has remained more or less static ov years. On the other hand, the expenditu municipal bodies has gone up considerably d revision of scales of pay, revised dearness allow and other related factors. Spending statisti municipal bodies show that on an average, a half of the revenue is being spent on salaries o and other administrative obligations which a seriosly the productive part of municipal ser operation and maintenance.

Thus for improving the productivity of mun revenues there should be some methods to e

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India's fiscal policy: problems & prospects

Dr. V.P. Gupta and Mrs. Sneh Gupta

Outlining the fiscal policy problems in India, the authors say that the fiscal scenario has gradually worsened to an alarming extent. Corrective steps are now required to reverse the deteriorating trend and to create conditions for the restoration of health of the financial system, say the authors.

THERE ARE THREE MAJOR GROUPS OF fiscal policy problems in India. First, is the problems of federal finance, with ramifications into such questions as the increasing imbalance between the expenditure needs and own resources of the State Governments, the principles of central assistance, the equilizing role of the Federal Government and the States growing indebtedness to the Centre. Second is that of promoting or securing economy and efficiency in public expenditure. The last is that of issues concerning with the tax policy and with the formulation and implementation of overall fiscal policy measures.

A look at the fiscal scene of the centre and the States is essential for making a post-mortem analysis of the fiscal policy problems in India. Between 1974-79, the revenue account of the Centre was consistently showing a surplus which, on an average, was Rs. 534 crore per annum. This position had changed considerably during the period 1979-84 when the revenue account of the Centre showed consistently a deficit, which, on an average was Rs. 1,449 crore per annum. This position had worsened still further during 1984-87 when the revenue account of the Centre has been showing a deficit of Rs. 5,674 crore per annum. On the other hand, the revenue account of the States showed an average surplus of Rs. 926 crore per annum during 1974-79 and Rs. 1,102 crore per annum during 1979-84. From 1984-87, the revenue account of the States has shown a deficit of Rs. 124 crore per annum. The combined revenue deficit is estimated at Rs. 10,132 crore in 1987-88, which forms 3.1 per cent of GDP. Of this, the share of the Centre is Rs. 8,496 crore or 2.6 per cent of GDP. In nominal terms, revenue receipts grew at an annual rate of 14.5% between 1975-76 to 1986-87, while the growth rate of revenue expenditure was at 17.2 per cent. This out-pacing of revenue growth by expenditure growth has led to an era of revenue deficits beginning from 1980-81 The growing revenue deficit in the budget means that the government is unwilling or unable to raise revenue to meet expenditure on even internal and external security and ordrely administration.

Tax Structure

A feature of India's present tax strcture is the prepondrance of indirect taxes. In 1987-88 (B.E.), out of the total amount of tax revenue collection (Rs. 3.6075 crore) 17.7 per cent is expected from direct taxes and 82.3 per cent from indirect taxes. The proportion of indirect taxes in the tax revenue collected by the Centre has increased steadily over the years, from 73% on an average in the first half of the Seventies to 77 per cent in the first half of the eighties. Among the direct taxès, the share of non-

Table I

Share of direct and indirect taxes in total tax-receipts collected by centre

	Direct Taxes			*Indirect Taxes*		
	In-come	*Cor-pora-tion*	*Total*	*Excise*	*Cus-toms*	*Total*
1970-71 to 1974-75 (Average)	14.2	11.8	27.2	52 4	18.8	72.8
1975-76 to 1979-80 (Average)	12.8	12.1	26.6	50.6	21.1	73.4
1980-81 to 1984-85 (Average)	9 1	11.6	22.6	47 6	27.8	77.4
1985-86	8.4	11.0	20.2	46.4	32.7	79.8
1986-87 (RE)	8.3	10.8	19 1	44.9	36.0	80.9

Source: Long Term Fiscal Policy and Central Budget Documents

corporate, that is personal income tax has registered a decline from 14.2% in the first half of the Seventies to 9.1 per cent during the first half of the eighties. Among indirect taxes, the proportion of union excise has come down from an average of 52.4% in the first half of the seventies to 47.6% in the Sixth Plan and that of customs has increased during the same period. This is evident form Table-I.

Narrow coverage of the working population, numerous exemptions and deductions and wide-spread tax evasion are the factors responsible for the lack of buoyancy in income tax revenues. The total number of income tax payers has remained at about 4 million or so for many years. The National Institute of Public Finance and Policy estimated that incomes that are taxable but not reported to the tax authority were of the order of Rs. 32,000 to 37,000 crore in 1983-84.

The other main component of income tax, namely the tax on corporate profits, is contributing more to the exchequer than the personal income tax. However, a substantial proportion of the corporation tax currently comes from the public sector enterprises, particularly the petroleum group of companies. The share of corporate tax from public sector undertaking was 52% in 1983-84, out of which the share of oil companies was 37 per cent and of non-oil companies was 15 per cent, and on the other hand, the share of corporate tax from private sector companies was 48 per cent during the same period. The base of Corporate tax is eroded because of the high rates which have reduced incentives to show profits in company balance sheets. It is to be noted that in the Corporate sector, over 98 per cent of tax revenues comes from companies having income of Rs. 1 lakh or more and constituting not more than 40 per cent of the total number of companies, assessed to income tax during 1982-83

The buoyancy of excise duties has suffered because of numerous exemptions and concession which have given rise to substantial administrative and legal complexities. Recent years have witnessed an unprecedented increase in litigation.

The gross domestic savings have increased from less than 17% GDP in 1970-71 to over 22 per cent of GDP in 1984-85. But direct taxes which constituted 3.4% of GDP in 1975-76 came down to 2.3 % of GDP in 1984-85 It is striking to note that while the savings of a small proportion of population have been steadily increasing, its tax burden has been decreasing.

Table-2 shows that the current revenues, particularly tax revenues, have shown substantial improvement in recent years, from 10.6 per cent in 1984-85 and 11 2 per cent in 1985-86 to 12.0 per cent of GDP in 1986-87 (RE), current expenditures, too, rose sharply to 12 1 per cent, 13.3, per cent and 14.5 per cent during these years. Among the major items of expenditure, the growth in interest payments has been most pronounced, from about 2.2 per cent of GDP in mid-eighties to the current level of 3.3 per cent and should be a cause of concern. Subsidies have also grown tremendously from a level of one per cent in mid-seventies to 1.9 per.

Table 2

Centre's Revenue Receipts and Revenue Expenditures.

	As percent of GDP (Old series)			*As per cent of GDP (New series)*			
	1975-76	*1979-80*	*1980-81*	*1984-85*	*1985-86*	*1986-87 (RE)*	*1987-88 (BE)*
1 Tax Revenue (Net of State's share)	8 1	8 0	6.9	7 7	8.1	8.3	8 5
2. Non-Tax Revenue	2.8	2.6	2.5	2.9	3.1	3.7	3.2
3. Total current Revenue (1 + 2)	10.9	10.6	9.4	10.6	11.2	12.0	11.8
4 Total current expenditure	9.7	11.2	10.0	12 1	13.3	14.5	13.8
(a) Interest payments	1.7	2 1	2.0	2.6	2.9	3.3	3.3
(b) Subsidies	0.6	1 4	1.2	1.6	1.8	1.9	1.7
(c) Defence	3.0	2.9	2.6	2.8	2.9	3.3	2.8
(d) Grants of States and UTs.	1 7	2.2	2.1	2.3	2.7	2.6	2.7
(e) Others	2.6	2.6	2.2	2.8	3 0	3.4	3.3
5. Revenue Account Surplus (+)/Deficit (–) (3-4)	1.2	–0.6	–0.6	–1.5	–2.1	–2.5	–2 1

Source: Economic Survey, 1987-88.

cent of GDP in 1986-87. The amount of grants to States and UTs and of defence expenditure has also grown over the period. So far as defence is concerned, needless to say, there can be no compromise with the imperatives of national security. However, efforts can be made by the government to reduce the expenditure on subsidies, particularly on account of food and fertilizers.

Subsidies

It is true that the food grain procurement and distribution operations conducted by the Governments do end in a loss, which is estimated at Rs. 1650 crore in 1985-86. But common man is not benefitting from a subsidy equal to this amount. To take the case of wheat, the explanatory memorandum to the budget for 1986-87 estimates that the total economic cost of wheat of Food Corporation of India is Rs. 262.03 per quintal. Compare this with the procurement price of wheat which was just Rs. 157 per quintal in 1985-86. In other words, what may be described as the FCI's mark up is a whopping Rs. 105 per quintal, or nearly 67 per cent, over the 1985-86 procurement price. What is also worth noting is that the identifiable costs of the FCI add up only to Rs. 50.59 per quintal (including freight, handling and storage charges, interest and administrative overheads), whereas the balance of more than Rs. 54 per quintal (of the excess over the procurement price) is attributed to procurement incidents. The FCI's sales realisation is given as Rs. 200 per quintal which gives a decent enough margin over the price which it pays the farmer. However, the FCI's operations are apparently so expensive that even with a sales realisation of Rs. 200 per quintal, there is a loss of Rs. 62 per quintal or 62 paise per Kg. If such subsidies continue to grow at the present rate, they will either be at the expanse of development expenditures or they will lead to higher budget deficits which, in turn, will affect costs and prices, thereby increasing demands for further subsidies. Therefore, an attempt should be made to contain such subsidies.

In recent years there has also been a rapid increase in the volume of fertiliser consumption in the country. This, along with the rise in the cost of fertiliser imports and domestic production, has resulted the growth of fertiliser subsidy from barely Rs. 600 crores in 1982-83 to over Rs. 2000 crores in 1985-86. Therefore, efforts must be directed towards reducing cost of manufacture of fertiliser.

Growth in public debt

Another cause for serious concern is the rapid growth in public debt. The combined public debt of the Centre and the States increased from Rs. 29.933 crore at the end of 1974-75 to Rs. 180,834 crore at the end of 1986-87 amounting to 61.5 per cent of GDP. It is estimated to have reached Rs. 210.377 crore by March 31, 1988. Until the revenue deficit emerged, public borrowing (including from RBI) was resorted to for financing public investment in the physical assets or for granting loans to the private sector. With a large public sector in core enterprises, it is inevitable that there is a large public borrowing programme. But such a borrowing programme and the consequential growth of public debt need not have resulted in a corresponding growth of interesest burden on the budget itself if the investment in public enterprises had earned adequate returns. The total capital employed in the Central Public Enterprises amounted to Rs. 52,000 crore at the end 1986-87. The rate of return on this capital amounted to 6% before tax and 2.4% after tax. At the level of States, the most important public enterprises are the SEBs and the State Road Transport Corporations. The share capital investment of States in as many as 827 undertakings (other than SEBs and State Road Transport Corporations) is estimated at Rs. 5164 crores at the end of 1988-89. On the other hand, the total capital employed in SEBs (13,534 crore in 1985-86) and in State Road Transport Corporations (Rs. 1,882 crore) together constitute Rs. 15,416 crores i.e. three times higher than that of 827 undertakings. The SEBs incurred a commercial loss of Rs. 1520 crore in 85-86. The State Road Transport Corporations made an aggregate loss of Rs. 226 crore on a block capital of Rs. 188 crore in 1985-86. Only two SEBs-Andhra Pradesh and Maharashtra are expected to show any commercial profit in 1988-89. The Planning Commission has stated that the Road Transport Corporations should yield a return on the capital at the rate of 6.5 per cent. However, many of the undertakings are not able to recover even their operating expenses, leave alone yielding returns on the investments. Only the Corporations in the States of Andhra Pradesh, Haryana and Rajasthan had any positive surplus after providing for depreciation and interest. The aggregate losses in 1986-87, after providing for depreciation and interest amounted to more than Rs. 170 crores. In spite of successive Finance Commissions pointing out this in their reports, the performance of the undertakings has not improved, rather has deteriorated

One of the major causes for the rise in the net interest burden on the State's budget is the poor returns on the capital employed by these two core undertakings. Another cause is the creation of public debt for financing revenue expenditures, which by its very nature cannot yield any direct return. In addition, wages and salaries have grown rapidly as a result of both increase in government employment and a rise in wage payments due to dearness allowance and pay revisions. If this trend continues, a growing proportion of expenditures would be incurred merely to pay salaries to government employmees, which would result in increasing revenue deficits further. Many of the States have followed in the footsteps of the Central Government in revising their pay scales without paying due regard to raise revenues. If we look at the State's own tax revenue and state's non-tax revenue, then we find that their share in the total receipts had declined over the period 1974-75 to 1986-87. The States own tax revenue

(Contd. on page 24)

Consolidation of holdings in Punjab

Pritam Singh

Punjab is one of the pioneer states which started the process of consolidation of holdings immediately after the country gained Independence and has successfully completed the task. Consolidation has played a major role in ushering Green Revolution in Punjab. In this article the author unveils the history of consolidation of holdings in Punjab.

CONSOLIDATION OF HOLDINGS HAS PLAYED a major role in ushering green revolution in Punjab. The consolidated holding creates necessary conditions under which farmer is prompted to make investments to improve the quality of the soil. The application of new agricultural technology which revolutionised the production potential, is in fact, seed-cum-fertilizer-cum-pumping sets technology. The adoption of new technology was made possible due to the investment climate created by the Consolidation of Holdings. The farmers sunk tubewells. They started sowing high yielding varieties and applying chemical fertilizers due to assured irrigation from their newly sunk tube-wells on their consolidated holdings. Agricultural production increased by leaps and bounds. Rural link roads provided in the course of consolidation made it possible to transport the produce to markets in the nearby towns and this ensured remunerative prices to the farmers.

Fragmented holdings, a bane

The disadvantages of fragmented and scattered holdings, which are a legacy of the past, are too well known to the farmers. It is a wasteful method of land utilisation and improved agricultural practices cannot be adopted. A farmer owning three to four acres may have his holding scattered in 10 to 15 tiny bits of land. In many cases there are such narrow strips of land that it is difficult for bullocks even to plough the land, as sufficient space is not available for easy movement and turning. A good deal of time and energy of the farmer and his bullocks is wasted in moving from one plot to another.

The need of consolidation of holdings was realised in Punjab around the twenties of this century. The consolidation was first started in the unpartitioned Punjab by the Cooperative Department in 1920. At that time it was taken up in odd villages and that too at the request of the people. The villages under operation were, generally scattered The officers and other suprvisory staff had to cover vast distances before they could reach their scattered units of workers. The consent of each land holder was also necessary before any scheme of redistribution could be implemented in any village. In order to bring some element of compulsion, Punjab Consolidation of Holdings Act 1936 was passed in which if 2/3rd of the land owners owning 75% or more of land in an estate applied for consolidation, then the operations could be undertaken without taking the consent of the remaining land owners. But the progress under both the schemes was very slow and the area consolidated under these schemes before partition took place, was only seven lakh acres which is less than average area of a district. However, pioneering work was done which made the farmers consolidation-minded and prepared the ground for compulsory consolidation of holdings The East Punjab Holding (Consolidation and Prevention of Fragementation) Act, 1948 was placed on the statute book in 1948. In the statements of objects & reasons it was *inter alia* stated as followes:

> "In the last budget session the East Punjab Legislative Assembly passed a resolution recommending to Government the adoption of necessary measures for compulsory consolidation of holdings in the Province and to complete it within the shortest possible time At present there are two methods of consolidation in vogue in the Province. One is through the Revenue Department and the other through the Co-operative Deptt: Under the Revenue method of consolidation if not less than two-thirds of the land owners in an estate or a sub-Division of an estate holding not less than three-fourth of the cultivated area, make an application for the consolidation of their holdings,

the application is deemed to be an application on behalf of all the land-owners, and if any scheme of consolidation is confirmed in such a case it becomes binding on all the land owners and their successors-in-interest. Under the Co-operative method, the proprietory body has to agree to the scheme of consolidation and in case of disagreement recourse is made to arbitration. In the past consolidation work in this Province has been done through both the Revenue and Cooperative Department but the speed of work has been very slow, and the process has been so lengthy that material results have not been obtained so far.

The existing law of consolidation of holdings is contained in the Punjab Consolidation of Holdings Act, 1936. It is a defective legislation in as much as it does not give sufficient powers to Government to undertake compulsory consolidation of holdings. Besides, there is no provision in it to avoid fragmentation of holdings due to partition between co-sharers and other causes. As the prosperity of the peasantry depends chiefly on the size of holdings in the country, Government have decided to implement the resolutions passed by the Assembly to repeal the Punjab Consolidation of Holdings Act, 1936, and to replace it by a new enactment The new bill is designed to consolidate holdings in villages compulsorily and to avoid fragmentation of holdings."

Consolidation under the new act

Under the new Act consolidation can now be done compulsorily. Consolidation can be undertaken in a village either on the application of the land owners or on the Govt's own initiative. To enforce the 1948 Act vigorously, a separate Department of Consolidation of Holdings was created from Ist April, 1949 and work under the new Act started in right earnest from 1.4.1949.

To start with the work of consolidation, an estate is notified under section 14 (1) of the Consolidation Act. Thereafter, a Consolidation Officer is appointed in respect of that estate under section 14 (2) of the said Act by a notification, and such notifications are also published in the estate concerned. The advisory committee of the right holders of the village is constituted by the Consolidation Officer under Section 14 (2) of the Act *ibid.* This Committee includes the representatives of proprietors and non-proprietors

Certain preliminary steps in the shape of preparation of preliminary record and rectangulation work are then taken by the field staff. In the matter of rectangulation in the State of Punjab, acre is equivalent to a rectangle of 220 ft. x 198 ft The rectangulation has been done on the lines of the Survey of India Department on the longitude and latitude lines. After this the following work is done:

Evaluation and Drafting of Scheme

This is the basic thing on which hinges the success or failure of consolidation operations in any particular village. If the evaluation of fields in any village under consolidation operations is properly done then there is no reason as to why the consolidation operations should not succeed.

In the early fifties when the consolidation operations were just in the infancy in the State of Punjab the evaluation of fields in the villages under consolidation operations ranged from one anna to sixteen annas with a difference of one anna in between. But by gaining experience, it was decided that the evaluation should range only in even figures i.e. 2 annas, 4 annas, 6 annas .....16 annas.

The adoption of evaluation in even figures facilitates easy conversion of area while writing out the field book, Khatauni and demand list of each rightholder (or the new record of rights) The valuation of each field in a village under consolidation in the first instance, is done by the Assistant Consolidation Officer with the assistance of village Advisory Committee. When he has done the evaluation, he informs his Consolidation Officer to check up the evaluation of fields done by him. The Consolidation Officer then goes to the villages, hears the view points of the rightholders and then inspects as many fields as possible, and then confirms the evaluation after incorporating any change which he may deem fit. The Consolidation Officer than draws out a Scheme for the village. The rightholders who feel aggrieved with the wrong evaluation are told by the Consolidation Officer to file objections within a period of one month to the Settlement Officer. The Settlement Officer in turn sends back such application to the Consolidation Officer concerned to verify the evaluation objected to by spot inspection. While in due course, the Settlement Officer goes to the village for the confirmation of the scheme the report of the Consolidation Officer regarding objections on wrong evaluation are put before him. If the rightholders still feel aggrieved with regard to the evaluation of their fields the Settlement Officer goes to inspect the fields and as a result of his inspection on the spot, the Settlement officer may either endorse the report of the Consolidation Officer or change the evaluation as he may deem fit. The scheme is then confirmed by the Settlement Officer and the evaluation of fields forms part of that confirmed scheme. As a last resort such rightholders who still feel aggrieved regarding evaluation have a right to file revision application to the Director/Additional Director, Consolidation of Holdings, who may in his turn either confirm the evaluation as already done by the Settlement Officer or change the evaluation as he thinks proper. The order of the Director/Additional Director regarding evaluation is final.

Question of title

The question of title is left for decision to the Civil Courts. The Consolidation staff holds back its hands when a dispute about title arises at any stage during the process of consolidation operations.

Land for landless persons

The landless persons irrespective of the fact whether Harijans or otherwise are entitled to a free gift of five marlas (1/32 acre) for abadi provided such persons are helpful to the cultivators directly or indirectly. The criterion, besides Harijans, also applies to such persons who may be carpenters, washermen, barbers, black-smith etc. who are also eligible for allotment of five marlas (1/32 acres,) for abadi purposes because persons of these categories help the farmers directly or indirectly. The Assistant Consolidation Officer draws out a list of eligible persons for allotment of such free abadi plots in consultation with the village panchayat and the representative of the landless persons. The Consolidation Officer then goes to the village either to confirm the list of eligible persons or to make addition or deletion after his personal enquiry. Such of the eligible persons who feel aggrieved that their names do not find place in the list proposed by the Assistant Consolidation Officer and Consolidation officer have a right to represent to the Settlement officer, who, in turn, will verify such objections when he goes to the villages for the confirmation of the scheme. The Settlement officer affixes his seal on the final list of eligible persons in order to obviate any change or ommission in the drawing out of such list. The aggrieved persons still have a right to represent to the Director/Additional Director for the inclusion of their names in the list of eligible persons or the exclusion of name of any ineligible person. The list thus approved by the Director/Additional Director becomes final. When the repartition is carried out in a village, a space at a suitable place equivalent to the demand of eligible persons for allotment of abadi plots is earmarked by the Assistant Consolidation Officer. The plots are laid out on the spot and each eligible person is actually shown his plot by giving him demarcation. Nothing is left in doubt in suspense.

Table -'A'

Statement showing the year-wise progress of Consolidation of Holdings work from 1950-51 to 1964-65.

S.No.	Year	Area repartitioned during the year		Area of which record was consigned during the year	
1.	1950-51	1, 52, 467 acres		2,392 acres	
2.	1951-52	9,44,203	,,	11,252	,,
3.	1952-53	9,69,204	,,	4,17,403	,,
4.	1953-54	13,63,759	,,	12,80,667	,,
5.	1954-55	8,99,945	,,	9,17,052	,,
6.	1955-56	9,36,971	,,	6,57,755	,,
7.	1956-57	12,72,169	,,	13,51,938	,,
8.	1957-58	8,53,044	,,	8,81,269	,,
9.	1958-59	13,24,864	,,	19,03,189	,,
10.	1959-60	26,47,383	,,	21,76,486	,,
11.	1960-61	27,60,651	,,	26,29,880	,,
12.	1961-62	25,21,238	,,	24,87,969	,,
13.	1962-63	17,82,535	,,	19,16,696	,,
14.	1963-64	13,50,234	,,	14,55,653	,,
15.	1964-65	6,13,524	,,	9,52,376	,,
Total		2,04,72,421	,,	1,92,51,650	,,

The Punjab story

The State of Punjab was re-organized in 11, 1966. The Hindi speaking areas formed the State of Haryana and Punjabi speaking area, the present state of Punjab. Some hilly areas were merged with the State of Himachal Pradesh but in the pre-organized Punjab, bulk of the work of consolidation was done. Table 'A' and Table 'B' show the year-wise progress of the land holdings consolidated and the area for which record of rights was updated and consigned in Punjab from 1950-51 to 1964-65 (Composit Punjab-Pre-reorganization) and from 1965-66 to 1985-86 (After reorganization)

Table 'B'

Statement showing the year-wise progress of consolidation of holdings work from 1965-66 to 1985-86.

Sl. No.	Year	Area repartitioned during the year		Area of which record was consigned during the year	
1	1965-66	6,13,524, acres		4,80,879 acres	
2.	1966-67	1,34 881	,,	1,62,322	,,
3.	1967-68	87,584	,,	95,861	,,
4.	1968-69	1,31,880	,,	1,50,001	,,
5	1969-70	1,73,388	,,	1,11,837	,,
6.	1970-71	1,29,048	,,	89,369	,,
7	1971-72	73,374	,,	66,088	,,
8.	1972-73	36,465	,,	47,154	,,
9.	1973-74	42,673	,,	33,804	,,
10	1974-75	27,020	,,	33,312	,,
11	1975-76	28,575	,,	15,288	,,
12	1976-77	14,837	,,	19,496	,,
13	1977-78	12,308	,,	26,639	,,
14	1978-79	20,711	,,	12,288	,,
15	1979-80	18,310	,,	7,255	,,
16	1980-81	19,132	,,	10,222	,,
17	1981-82	16,643	,,	14,720	,,
18	1982-83	15,941	,,	12,842	,,
19.	1983-84	16,507	,,	16,482	,,
20.	1984-85	18,385	,,	17,327	,,
21.	1985-86	16,302	,,	13,230	,,
Total		16,47,879	,,	14,16,385	,,

Source: The information has been compiled from the Annual Administrative Reports of the Consolidation Department, Punjab

The progress of work and the pace at which consolidation of holdings took place can be easily gauged from Table A & B and also from the fact that on Ist April, 1988 the balance area to be consolidated was only 56,000 acres. The programme for consolidating 56,000 acres has also been drawn up and the consolidation will be undertaken as follows:—

1988-89	18000 acres	
1989-90	18000	,,
1990-91	20000	,,
	56000	,,

Consolidation of Holdings has opened new vistas of prosperity for the farmers and agricultural development has been stimulated on a vast scale.

It has been estimated that the expenditure for cultivation of land increases by 5.3% for every 500 meters of distances for manual labour and ploughing. It has been estimated that income after consolidation rises by at least 25% even when there is no change in the technique of cultivation.

Fragmentation reduces the land holdings in tiny bits which cannot be brought under plough. When the land holdings are consolidated, such tiny bits of land which had earlier been abandoned as they were unviable are also pooled and this results in incerase in arable area. Even after reserving land for common purposes, there was net addition to the total arable area which can be seen from Table C (Pre-reorganized Punjab) and Table D (Post re-organization Punjab) respectively.

Table-C

Statement showing the cultivable area added during the year as a result of consolidation from 1950-51 to 1964-65.

S.No.	Year	Cultivable area added during the year as a result of consolidation	
1.	1950-51	11 952	acres
2.	1951-52	11,569	,,
3.	1952-53	28,215	,,
4	1953-54	50,347	,,
5	1954-55	59,687	,,
6	1955-56	26,116	,,
7.	1956-571	62,596	,,
8	1957-58	41,675	,,
9	1958-59	76,172	,,
10	1959-60	89,089	,,
11	1960-61	88,805	,,
12	1961-62	82,422	,,
13	1962-63	65,751	,,
14	1963-64	34,596	,,
15	1964-65	46,510	,,
Total		7,75,512	,,

Table "D"

Statement showing the year-wise cultivable area added during the year as a result of consolidation from 1965-66 to 1985-86.

S No	Year	Cultivable area added during the years as a result of consolidation	
1.	1965-66	14,867	acres
2	1966-67	6,713	,,
3	1967-68	7,227	,,
4	1968-69	17,327	,,
5	1969-70	8,186	,,
6	1970-71	17,546	,,
7	1971-72	10,863	,,
8.	1972-73	3,150	,,
9	1973-74	3,181	,,
10.	1974-75	3,963	,,
11	1975-76	2,144	,,
12.	1976-77	1,363	,,
13	1977-78	633	,,
14.	1978-79	48	,,
15	1979-80	947	,,
16	1980-81	580	,,
17	1981-82	1,170	,,
18	1982-83	1,074	,,
19.	1983-84	1,988	,,
20.	1984-85	1,227	,,
21	1985-86	993	,,
Total		1,05,210	,,

Source: This information has been compiled from the Annual Administrative Reports of the Consolidation Department, Punjab

Canal irrigation is practically an impossibility on scattered holdings. A tubewell or a well also cannot be economically sunk on a small holding. The impact of consolidation of holdings on the investment climate and enthusiasm of the farmer to improve the soil can be gauged from the fact that in a year's time from 1st October, 1952 to 30th Sept. 53 as many as 1985 percolation wells were sunk on consolidated holdings. In Samrala Tehsil of Ludhiana district, consolidation of holdings operation was completed in 1954 and 750 percolation wells were sunk and 230 tubewells and pumping sets were installed within one year.

With a view to study the effect of consolidation of holdings in a village, a study was conducted in village Ghungrali of Ludhiana District and it was discovered that as 'a result of consolidation of holdings the number of tubewells in the village increased from 4 in 1950 to 104 in 1969.

Tractor cultivation on tiny bits or land is impossible. Tractor cultivation can be undertaken only when the size of the plots is viable. After consolidation of holdings, tractor cultivation has increased. It was found that in village Ghungrali tractors increased from one in 1962 to 16 in 1969.

The sinking of percolation wells and installation of tubewells and pumping sets and cultivation with the help of tractors has become quite common in the villages of Punjab. Number of tubewells escalated from 26066 in 1966-67 to 6.73 lakhs in 1986-87. Similarly, the number of tractors increased from 10636 in 1966-67 to 2,22,183 in 1986-87.

Consolidation of Holdings provides a unique opportunity for planning the country side which includes planning of educational institutions, hospitals and dispensaries and roads. The village community on the whole benefits as reservation of land is made to provide finance for common purposes. Pieces of land are also reserved for community buildings such as Community Centres, schools, hospitals, places of worship and play ground. Above all, straight roads are provided to the villages abadi as well as to the entire cultivated area.

The roads provided under consolidation made it easy for the farmers to transport their grains to the mandis and ensure better price for their produce.

From 1965-66 to 1986-87, 5,08,108 families of landless agricultural workers/Harijans were given abadi plots free of cost.

As before consolidation, record of rights is updated, therefore, it proves to be a great boon to the land holders and much of protracted litigation is avoided due to the updating of the revenue record.

It is due to the consolidation of holdings in Punjab that "as one flies from Calcutta to Amritsar the rural land scape from Delhi onward shows marked change. Instead of irreqular fields, one sees large areas demarcated in rectangles with straight roads, linking the villages with the fields and market towns.

□□□

Nehru and Planning

Dr. R.M. Tungare

Jawaharlal Nehru, architect of Indian Planning preferred mixed economy model for the development of India says the author. His concept of planning being democratic he was open to any suggestion since he wanted that planning should not be merely a blue-print but a way of life, says the author.

THINKING ON PLANNING STARTED QUITE early in India i.e. immediately after the Russian Revolution Some intellectuals notably M. Visvesvaraya saw quite early that conscious national economic planning was needed for rapid industrial development of India. The leadership of Jawaharlal Nehru as the Chairman of the National Planning Committee (NPC) set up in 1938 gave a great impetus to thinking on planning in the country Though the NPC did not succeed in producing a blueprint of a national plan, it served two important purposes; the intellectuals in the country got intimately acquainted with notions of planning and secondly the most important party shaping the future course of action of our country got committed to the programme of planning.

While articulating the concept of planning Nehru was no doubt impressed by Russian experiment. But he had all the realisation of difficulties associated with such kind of experiment. He had a very deep understanding of the world history as can be seen from his *Glimpses of World History*. But his concept of planning never claimed to have its origin in doctrinaire philosophy of history What he understood by a planned economy was a regime where things could be made to happen through foresight, goodwill and co-operation. In contrast, in market economy things just happen.

Nehru was not a professional economist, but he had fair appreciation of the economic forces which led the world on the path of development. He was well aware that 19th Century capitalism had unleashed vast productive forces, but he was also aware that it had caused massive dislocation in the accepted ways of life, imposing considerable sufferings on labouring men.

Though Nehru was impressed by the experiment of Russian Revolution, when it came to the selection of suitable option for development of independent India, he preferred "Mixed economy" model. This was not just political convenience but a thoughtful answer to the mode of economic organisation suitable for Indian economy. One thing is very clear that at no stage of his life Nehru adopted a free market philosophy and he always relied on planning as the rational mode of conflict resolution. His concept of planning envisaged that people's participation should be ensured at every stage. The things which are going to affect the people, may be decided and moulded by them in perfectly democratic way. That is, his concept of planning was democratic planning. In the articulation of the concept of planning in India, he strongly favoured democratic framework which ensures that things are decided in a co-operative manner, seeking the willingness of all concerned Nehru tried to keep away the element of 'coercion' in the concept of planning.

Nehru's contribution in the articulation of the concept of planning has been best summarised by Dr. P.C. Mahalnobis as follows:

> "Under the leadership of Nehru, India made big advances. He initated thinking on planning in India. Through his speeches and through planning committees and the planning commission, he has exercised a profound educative influence and made India conscious of the need for national planning Through the Congress Party and the Government, he has made planning an instrument of national policy on the biggest scale outside the communist countries, and has persuaded India to accept socialism as her goal. He has brought to Indian planning a full appreciation of the scientific revolution which is transforming the world, a sensitive awareness of human values and cultural traditions, an inherent sense of democracy and an international outlook."

Necessary machinery

Nehru's articulation of the concept of planning was backed by concrete steps. He realised the need for a

separate body to which the task of planning can be assigned. He felt that it would be more scientific, based on facts and figures, pooling the expertise of talented personnel in different functional areas. The planning commission of India is the brain child of Jawaharlal Nehru. We do not find definite reference of planning commission in Indian Constitution though framers of Indian Constitution have adequately elaborated on future course of development of India.

Though it was difficult for Jawaharlal Nehru to devote a considerable amount of time to planning due to political turmoils and uncertainties of 1947, from around the middle of 1949, Nehru's mind turned more and more to the solution of the food problem and economic planning. Towards the end of 1949, he gave a great deal of time to a foreign expert who prepared a memorandum setting of ideas of economic planning and the machinery required for it. In January 1950, at a meeting of the Congress Working Committee, the decision was taken to constitute a Planning Commission.

The draft resolution prescribing the terms of reference of planning commission was drafted by Jawaharlal Nehru himself. He linked up the work of the planning commission directly to the fundamental rights and to the Directive principles of State Policy.

Thus Nehru made it clear that the constitution of Planning Commission was in furtherance of the objectives in the Directive principles of State policy. It may be noted that Nehru exercised a tremendous political will in the formation of Planning Commission which was to chalk out the course of planned development not only for Central Government but also for State Governments. This was more so in the light of quasi federal structure of Indian constitution. When Nehru inducted Dr P.C. Mahalnobis into the Planning Commission, he wanted to ensure that planning process in India should be scientific, based on facts and figures He had the foresight in realising that adequate and accurate statistics formed the basis of planning. The National Sample Survey started in 1950 is a testimony to this.

When it came to the question of 'Planning from below', Nehru envisaged the machinery of Panchayat Raj Institution, i.e. three tier system of democratic decentralisation. These Panchayat Raj Institutions or local-self governments were entrusted with the responsibility of chalking out suitable plans at the block level and initiation of Community Development projects. Nehru's idea of planning was sufficiently flexible to accommodate any change suitable to local needs. When he was convinced that adequate degree of powers must be vested with local institutions, he showed political courage to create that type of machinery. His attempt was to create necessary framework to carry out the experiment of planning in India. He was open to any suggestions since he wanted that planning should not be merely blueprint but a way of life of people. He wanted that institutional framework for carrying out planning which will ensure adequate degree of involvement of people for whose welfare plans are being prepared.

Suitable institutional reforms

Nehru was fully aware of the fact that planning cannot be effectively implemented without making suitable institutional reforms. He was all the while on the look out for innovative ways of organising industry and agriculture. He felt that co-operative form of organisation would ensure greater participation of people in our development efforts-especially *in the rural sector of our economy*. In November 1958, the National Development Council adopted a resolution on Co-operative Policy For the development of co-operation as people's movement, the Council declared that it was essential that co-operatives should be organised on the basis of village community as the primary unit, and that the responsibility and initiative for social and economic development at the village level should be placed fully on the village co-operative and the village panchayat.

At the instance of Nehru, National Development Council also introduced State trading in foodgrains at the wholesale level At the time of implementation of the second five year plan, Nehru strongly felt that the objectives of planning will not be fulfilled unless institutional reforms are introduced with political courage The decision to introduce these institutional reforms was certainly with some political cost which he readily accepted. At this stage in the country's development, he felt concerned at slow progress in carrying out co-operative farming and in implementing the programme for land reforms. On both these issues, there had been considerable discussion at the highest level and Nehru threw his decisive weight on the side of co-operative farming and agrarian reforms. The second plan had envisaged such essential steps being taken as would provide sound foundations for co-operative farming so that over a period of ten years or so, a substantial proportion of agricultural lands could be cultivated on co-operative lines. Similar proposals were made in the plan to adopt common approach for land reforms to be accepted and pursued by each State as a part of National plan. These institutional reforms were accepted by various States only because of Nehru's political will and stature.

The drafting of Indian Plans

The association of Jawaharlal Nehru with the process of planning in India was more than a symbolic act. He was deeply involved in this experiment, giving necessary direction, when difficulties arose. Each of the three five year plans were substantially drafted by Nehru himself and also presented by him to the Parliament. Even the second five year plan which created controversy over Mahalnobis model was given the final shape by

Nehru. His adoption of a heavy industry oriented model of industrialisation in the second five year plan was criticised by many economists who believed in 'Textiles first' strategy for a backward country. One may disagree with the strategy as a whole but one thing is clear that it shows his deep commitment to the planning process of India. Shri Tarlok Singh recalling his association with Jawaharlal Nehru rightly points out that he used to spend considerable amount of time in Yojana Bhavan, listening very carefully the views of professional economists, bureaucrats. But he had his definite views on certain points which used to guide the deliberations of the Planning Commission. At times he used to take leave from routine activities of the Prime Minister and used to spend some days, giving final shape to the draft of the plan. The first three plans had undergone the ordeal of rewriting or redrafting at the hands of Nehru himself.

That was a period of intense debate and constructive criticism in the Parliament. But he adhered throughout to all his fundamental propositions. He made it clear that it was the firm policy of the Government to go towards a socialist structure of society. He said, "I think we have the background here, the urge and the necessity for going in that direction." He knew that his would be a long-term process which requires perspective planning of 15 years within which short-term plans are to be fitted. "Ultimately, we should develop that structure of society which encourages the right impulses and not the wrong impulses, the right trends and not the wrong trends".

The approach of building a socialist structure of society has permeated throughout the drafts of first three plans. Nehru's contribution in this area lies in the fact that his commitment to planning made the exercise of planning a serious one. The person of the stature of Nehru with his mass base and scientific approach passed on the feelers to the States, making the experiment of planning successful even at State level.

It may be noted here that the contribution of Nehru lies in the fact that he not only popularised the concept of planning but created appropriate institutional structure within which working relations between the Centre and the States were directed and regulated. He created a machinery like Planning Commission and body like National Development Council which could translate his vision into reality. It was not only the aspect of deep commitment and scientific outlook which made planning a successful experiment, but it was more his political will which could give planning a concrete expression in Indian context. While evaluating Nehru's contribution to Indian planning many a time we blame Nehru for the failures of planning. In our vein of criticism, we produce the statistics of families below the poverty line. But it may be borne in mind that Nehru provided us scientific methods of planning and necessary tools for achieving our goals. If these tools are not successful, the fault lies with us and not with Jawaharlal Nehru. ❑❑❑

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was 48.32% in 1974-75 and it declined to 45.43% in 1986-87 and States non-tax revenue was 13.57% in 1974-75 and it declined to 11.02% in 1986-87. This shows that fiscal scenario has gradually worsened to an alarming extent and corrective steps are required now to reverse the deteriorating trend and to create conditions for the restoration of health to the financial system.

Reports of Finance Commissions

The first report of the IX Finance Commission for the year 1989-90, is, by and large, as a continuation of the report of the VIII Finance Commission. The commission itself claims this. The Commission has deliberately refrained from making radical departures so as not to upset the ongoing arrangement in the terminal year of the Seventh Plan. The IX Commission has followed the same norms for the distribution of income tax and excise duties as that of the VIII Finance Commission to the extent of 87½% but for the rest 12½% it has followed the norm of poverty ratio.

The second report of the IX Commission is expected to be released by October 1989. The Commission can play a vital role in reverting the deteriorating trend of the poor performance of the two major State Public Undertakings by providing an incentive to the State governments in improving the financial performance of State Electricity Boards and State Road Transport Corporations. For this purpose, it is suggested that 5% of income tax should be distributed on the basis of financial performance of these two undertakings. A larger share should be given to better performing States. It is suggested because fixing of passenger fares is not within the discretion of the Road Transport Corporations, but is decided by the State Government concerned. Similarly, fixation of tariff rates is not in the hands of SEBs, but is decided by the State Governments.

If this suggestion is accepted, it will not imperil the interests of the developed States which are relatively getting more but will provide an incentive to the States to improve the financial performance of these public undertakings, thereby, reducing the net burden of interest payments on their revenue account which will help reducing revenue deficits. This suggestion can be incorporated by the IX Finance Commission in its second report for the Commission is asked by the President to suggest corrective measures. The corrective measures will be with particular reference to investments made in infrastructure projects and shall have linkage with improvements in financial and managerial efficiency.

Compost manure, a viable alternative

Laxmi Narain Modi

In this article the author analyses the ill effects of the uses of chemical fertilisers on the soil, environment and animal/plant life and presents compost manure' as a viable alternative ideally suited for the Indian Soil with multiplier effects of higher agricultural production, increased land productivity, employment generation and capital savings.

THE EIGHTH PLAN: PERSPECTIVES AND ISSUES state "Efficient growth in the agricultural sector means essentially the optimisation of land and water use at the local level. Agriculture is the livelihood base for millions and an improvement in the level and quality of agricultural growth is essential for meeting the basic objectives of employment generation and poverty-alleviation"

According to ancient Hindu script "GOMAYE VASATE LAXMI" or the Goddess of wealth and prosperity dwells in cowdung. These words of wisdom are true without any limit of time and space. Since ancient times cowdung has been used for a variety of purposes-medicine , cleanliness, cooking, manure, insulation etc. The use of cowdung for producing manure is discussed for its benefits in terms of investment, return on capital, rural employment, land productivity and quality of food products.

Chemical fertilizer

Fertilizer consumption, even in the best of times, has never been a strong point in the country, because it is not suitable for the Indian soil and natural environment. However, there has been a strong campaign for use of fertilizer with colossal subsidies thereon.

Indian plants also use one third more energy in fertiliser production; as against world average of 9.32 million Kcal, Indian plants consume 12.4 million Kcal per tonne.

During the seven year period ending 1987-88 cost of fertilizer inputs including feedstock as well as imported rock and sulphur increased by about 74% or about 8% compound per annum This excludes the cost increases caused by rise in freight charges, establishment expenses like wages and salaries and not the least, the much higher investment cost of newly commissioned plants. If all the elements are clubbed together, the annual increase in the cost of production and distribution would not be less than 10% per annum.

If cost increases to the tune of eight to ten percent per annum had been taken into account, the issue price of urea should have risen from Rs. 2000 per tonne in 1980-81 to about Rs. 3500-Rs. 3900 per tonne in the current year, that is about 50 to 65% higher than the existing price of Rs. 2350 per tonne.

Evidently the need for government to subsidise these increases of 65%, which has burgeoned to Rs. 3,000 crores per annum would have to be increased further.

Subsidies on fertilizer

There has been a strong campaign (though ill advised) for promoting the use of fertilizer and the object has been achieved by appointing various committees, who have invariably given their recommendations to facilitate increased use of fertilizers in India. Most recently the Finance Commission, based on the recommendations of the Department of Fertilizer, has, inter-alia, recommended as under:

Indexing of issue price of fertilisers with the rise in the cost of production;

Supply of inputs like gas, petroleum products and coal at concessional prices;

Revision of the method of calculation of depreciation allowance while determining the retention prices;

Refixation of the capacity utilisation norms taking into consideration the factors of feedstock and allied factors.

Reduction of customs and excise duties on machinery for fertilizer projects and on fertilizer inputs.

The broad trends of production, import, offtake of fertilisers and subsidies are as under:

Year	Production	Import (Lakh Tonnes)	Offtake of total NPK fertilizers	Total subsidies (Rs. crores)
1981-82	40.9	20.4	60.6	375
1982-83	44.0	11.3	63.9	605
1983-84	45.3	13.6	77.1	1042
1984-85	51.6	36.2	82.1	1927
1985-86	57.6	34.0	87.4*	1924
1986-87	70.7	25.0	87.4	1933
1987-88	77.0	12.0	91.1	3000*

(Source: Economic survey 1987-88) *(estimated)

The important point to be noted is that from Rs. 375 crores in 1981-82, the fertilizer subsidy has burgeoned to an estimated Rs. 3000 crores. If all costs of collection, disbursement and loans are considered the real amount of subsidy would workout to more than Rs. 5,000 crores.

Fertilizer consumer prices

The Government of India, appointed a 14 member high-power committee on Fertilizer Consumer Prices, headed by Dr. G.V.K. Rao former member of the Planning Commission. The Committee, in its report recently submitted to the Government has observed that among the South and South-East Asian Farmers, the Indian farmer is perhaps in a most disadvantageous position, as far as fertiliser nutrient (nitrogen) grain-price ratio is concerned. During 1984-85, the Indian farmer had to sell 3.4 Kg. of paddy to buy one Kg. of nitrogen as compared to:

Bangladesh	2.01 Kg.	Burma	0.69 Kg.
Indonesia	1.24 Kg.	Malaysia	1.26 Kg.
Pakistan	2.47 Kg.	Nepal	2.87 Kg.

As for the cost-benefit ratio for fertiliser use, the report says that in areas with assured irrigation, it is, 1:2.3 for wheat and 1:2.5 for rice. On the other hand, farmers in the rainfed areas have an added risk, if they have to use fertiliser. For adequately covering this risk, they should have the cost-benefit ratio in the region of 1:3 to 1:3.5.

The Committee has recommended that consumer prices of fertilizer should be so designed that fertilizer consumption should increase by 10% per annum. The committee has also recommended that abolition or substantial reduction of fertiliser subsidy is fraught with "serious consequences".

Among the other recommendations of the Committee are: reduction of interest rate on bank credit advanced to co-operatives; zoning of markets on a long term basis, for fertiliser producers; and fixation of distribution margin for dealers by the fertiliser industry co-ordination committee.

It may be noted that the recommendations of the high power Committee are in line with the policy of the Government to give a helping hand to the fertiliser industry.

Fertiliser new plants

Presently production of fertilizer is about 77 lakhs tonnes. In addition, about 12 lakhs tonnes of fertiliser is being imported, entailing a foreign exchange outgo of hundreds of crores of rupees. Govt. has also approved setting up of six fertilizer plants at Guna, Aonia, Jagdishpur, Babrala, Sawai Madhopur and Shahjahanpur along the HBJ gas pipeline route. In addition, proposal is under consideration to set-up fertilizer plants in the South, if sufficient gas is available in the Godavari and Cauvery basins. Recently there is also rush for setting up of joint venture fertiliser plants in the Persian Gulf and import fertilisers from these plants.

Uneconomic investment

Investment per tonne of installed capacity for chemical fertiliser plants has gone up almost to 10 times from 1967-69 level to 1988 as apparent from following table.

		Rs /Tonne	
1967-69	GSFC	2300	
1975	IFFCO	2800	Operating efficiency is
1976	Mangalore	4800	about 80% level hence the
1981	IFFC	9000	investment on actual
1985	RCF	13400	production per tonne is
1987	NFL	17365	to be increased by 25%
1988	IFFCO	20 800	

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Hence for new plant, the investment required, for per tonne of production is 20.800+5200 = 26000. Plant life is 10-12 years but with modernisation and proper maintenance, it may be taken at 20 years. Hence interest cost even at 12% comes to Rs. 3120 and amortisation cost Rs. 1300 per tonne, both totaling to Rs. 4420 per tonne (against selling price of about Rs 2350 per tonne); leaving aside raw material, fuel, processing, labour, packing, marketing etc

Hence to give a return of 12% on investment, the government would have to "Perpetually subside" with increasing amounts, since the selling price does not cover even the interest cost. This shows how capital intensive is this industry which is being pampered. ignoring village level compost manuring practices, which provides jobs to millions and at COR of 1:2.5.

Ill effects of fertilisers

It is high time that we address ourselves to the fundamental issue, whether fertiliser is necessary in the Indian environment ? The disadvantages of production and use of chemical fertiliser are many and varied. Firstly, the cost of production of fertiliser is very high. It is a highly capital-intensive industry, having capital output ratio 6:1 and incremental capital output of 5:1. It requires heavy import of technology, plant and machinery as well as raw materials. Secondly, use of fertiliser increase production temporarily but reduces land productivity.

Over a period of time the land requires increasing

doses of fertiliser to maintain the same level of production. In this context, the United National Environment Programme (UNEP) in its recent report has observed that "Making farming decisions designed to reap commercial gains, may well maximise short term profits, succeeding in good seasons, but causing serious damage to their land during drought because of over-stocking, over-cropping or de-forestation".

Thirdly, farmers have to use incremental quantities of nutrients like nitrogen, phosphate and potash; along with a variety of poisonous pesticides to supplement the use of fertilisers. The overall adverse effect of all this on the Indian land has been akin to liquor on human body, as evident from following:

Total consumption (000 tonnes)	1975-76	1986-87
N	2148	5846
P2 05	467	2140
Average Consumption (Kg) of Nutrients per hectare of gross cropped area	16.9	48.2
Average yield per hectare (Kg)		
Rice	1235	1482
Wheat	1410	1968

While consumption of Chemical Fertilisers has gone upto 300%, the increase in yield is only 20% for Rice and about 40% for Wheat.

World Watch Institute, Washington has also said in a report that official recognition of the cycle of land degradation and its consequences is emerging in India.

Even the Ministry of Agriculture has observed that intensive cropping through the cultivation of high yielding varieties, with the use of NPK chemical fertilisers, is leading to heavy removal of micro-nutrients. The micro-nutrient deficiency has resulted in 10 to 30% drop in grain yield. The news report published in Oct. 1987, has pointed that excessive use of fertiliser has resulted in loss of micro-nutrients which provide nutrition to crops. Their deficiency has caused imbalances in the plant system, affecting the various physiological activities and ultimately affecting the crop yields.

Fourthly, the product grown with fertiliser and pesticides looses its natural taste, nutritional value and perishes earlier. To avoid the use of product grown with fertiliser and pesticides, in the USA each and every grocery store has a separate section to sell food products which are grown without fertiliser and pesticides.

These natural foods are priced higher, because of their nutritional value and wholesome taste but still demand is on the rise.

Last but not the least, the manufacture and use of fertiliser and pesticide cause serious industrial accidents and massive pollution of air, water and soil. The unfortunate victims of Bhopal tragedy can tell the horrifying experience.

Chemical fertilisers, how dangerous

1. Artificial fertilisers crowd out useful minerals naturally present in the soil.
2. Fertiliser enriched soil can not support microbial life and hence there is less humus and less nutrients.
3. Soil becomes poor and eroded by wind and rain.
4. Corn and wheat grown on soil fertilised with nitrogen, phosporous and potash have shown a 20-25% decline in protein and increase in carbohydrate content.
5. Along with decline of protein, the subtle balance of amino acids is disturbed, within the protein modecule.
6. Protein imbalance affect tissue building function of the body.
7. Nitrate fertilisers used on soil have entered our wells and ponds, making such water unfit for human consumption.
8. Bactèria living in intestinal tract convert the Nitrate undeo certain conditions into Nitrite. Nitrite reaches the blood to combine with haemoglobin, which, destructs oxygen carrying capacity from lungs to the tissues, leading to respiratory failures and death.

Dr. H.H. Koepf, a well known soil chemist, once said that modern agriculture can honestly claim only two notable crops "Disease and Pests"; and to this third could be added poison, in the form of Nitrates and Nitrites.

(Extracts from article by Thankamma Jacob Hindustan Times of 9th October 1988)

Dr. Girish Chandra Choudhury of Banaras Hindu University has conducted survey of nearly 50 pockets of Up and Bihar on underground water. His findings reveal that the ground water in the region was heavily charged with nitrogen, phosphate and potassium due to in-discriminate use of fertilisers.

Compost manure

Compost (organic manure) is a viable alternative, which is ideally suitable for the Indian soil and environment. Compost by NADEP method at village level is without any risk of pollution or accident.

NADEP Compost has been developed as a result of experiments carried on for nearly 25 years at pusad, Maharashtra in Dr. Kumarappa Go-gowardhan Kendra, by Sri N.D. Pandharipande.

Gandhi Gram Rural Institute, Madurai, a deemed university under the University Grants Commision; as well as the Centre of Science for Villages, recognised by the Department of Science and Technology, Govt. of India; have found that NADEP process of composting is viable. Composting also reduces growth of flies.

There is no need for any plant and machinery-imported or indigenous. What is needed is a simple

rectangular brick-tank of 10' length, 6' breadth and 3.3" height, thus having capacity of about 200 cft. The tank should have holes on all sides to speed up decomposition process.

The tank has a storage capacity of about 3.5 tons. The cost of construction works out to about Rs. 1,000/- per tank. The economic life of the tank is at least ten years. A minimum of ten tanks are desirable for economic production, but larger the better.

Economics of NADEP compost

The raw-materials required for production of NADEP compost are cowdung, waste clay and agro waste like green/dried-up twigs, stems, grasses, leaves etc. These are available in plenty in rural areas and can be collected by unskilled labourers. The ratio of cowdung to compost is 1:40. Thus for producing compost of 100 tonnes, the raw materials required are-cowdung 2.5 tonnes, waste clay 50.0 tonnes and agro waste 47 5 tonnes. With this combination of raw materials, the nutritional composition of NADEP compost is 3 times higher than what is found in pure cowdung manure, as evident from following:

	Compost	
	Cowdung	NADEP process
Nitrogen	0 5-0 7	1 0-1 5
Phosphate	1 0-1 2	0 5-0 9
Potash	0.5-0 6	1 2-1 4
Micro-organism		Huge Quantity

A unique feature of the process is the generation of abundant quantity of micro-organism, which are very essential for maintaining land productivity.

The manufacturing process of NADEP compost is most simple. Even an illiterate person can produce it by filling the tanks with the raw materials in prescribed manner. By the natural process of decomposition, in less than four months, the raw materials turn out into rich, nutrient, soft, good smelling and fine quality of compost. Every tank produces about 3.5 tonnes of compost in one cycle The process is repeated three times in a year The total quantity produced in a year from on tank works out to 3.5 x 3 = 10.5 tonnes or say 10 tonnes. For 10 tanks it will be 100 tonnes

The cost-benefit analysis of compost for 10 tanks is as under:

	Rs.
Depreciation @ 10%	1,000
Repairs and maintenance	1,000
Wages to labourers and waste material	10,000
Contingencies	3,000
Total	15,000

So the cost for 100 tonnes of compost works out to Rs. 15,000 or Rs. 150 per tonne or Rs. 0.15 per Kg. It compares quite favourably with the residue of discharge slurry from the bio-gas plant, sold as manure at the rate of Rs.1 per Kg.

On a very conservative basis, let the selling price be kept as low as Rs. 0.25 per Kg. or Rs. 250 per tonne. As such the profit will be Rs. 25,000-15,000 = Rs. 10,000.

It is worth nothing that in case of manure, the capital output ratio is 1:2.5 and profitability on capital employed is approximately 50%.

Suggestions

Fortunately, India has the largest population of cows in the works. The cowdung available in the country, only from night-droppings, for collection is 40 crore tonnes. Even if one-fourth of the avilable cowdung is used, with the cowdung: compost ratio of 1:40, 10 crore tonnes of cowdung will produce 400 crore tonnes of compost worth Rs. 1,00,000 crores. The amount is one-sixth of the total outlay of the Eighth Five Year Plan of India. One can imagine the boost rural economy will get in terms of higher agricultural production, employment generation, savings, further investment and capital formation. It will have a multiplier effect.

The existing capacity in the fertiliser industry is more than adequate. There is no need to approve proposals for setting-up of new fertiliser plants or expansion of the existing plants. Enough is enough

The use of compost will increase land productivity on payment basis, by improving the microbiology of soil crops and plants. A unique advantage of compost is that it retains moisture and as such, the water requirement of land will be comparatively less. In the Indian situation, availability of water is a major constraint, and as such, use of compost can form a significant part of water management and agricultural strategy of the nation.

There is also good potential for export of manure, particularly to the middle east countries by sea-route and earning of precious froeign exchange, if production of compost is undertaken near port towns.

There is a strong view that investment in capital intensive sectors like fertilisers should be given low priority in view of comparatively higher ICOR in these sectors. The difference in the *capital output ratio* of fertilizer (6:1) and compost (1:2.5) is the single most important point in favour of NADEP compost.

What is really needed is *institutional finance* and co-operative credit systems to provide financial assistance at cheap rate to all those who produce and use compost and Government media for popularisation of compost.

There is *need for demonstration* of the production of NADEP compost in every block and for this purpose the Government should provide atleast Rs. 100 crores. The allocation of funds will enable the voluntary agencies to build up demonstration tanks for production of NADEP compost in blocks, for benefit of farmers and generating rural economy.

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Promoting fertiliser and manure

Dr. A.N. Sarkar

Fertilisers and manures have played significant roles in revolutionising indian agriculture. Realising their potential, continuous efforts have been made to make available this important agricultural input to small and marginal farmers too at relatively low cost. In this article the author analyses the positive steps taken by the Government to promote and intensify the use of fertiliser and manure by the small and marginal farmers.

SMALL AND MARGINAL FARMERS WITH SMALL holdings (not more than 2 ha. per holding) represent about 73% of the land holdings but cultivate only 23% of the total cropped area in the country. These holdings mostly suffer from such drawbacks as limited irrigation facilities, impeded drainage, unfavourable climatic conditions, inadequate availability of fertilisers, and lack of transfer of technology. The small and marginal farmers also have low natural resources and very little vocational options for their economic sustainance. There is thus, a clear need to improve upon the existing technologies to ensure higher income from their holdings with relatively small investment.

Together with other agricultural inputs, fertilisers and manures have played significant roles in revolutionising Indian agriculture in the last few decades. Efforts are, therefore, made to make available this important agricultural input to small and marginal farmers at a relatively low cost. The Government has accordingly taken a number of positive steps as described below to promote and intensify the use of Fertiliser and Manures for the benefit of small and marginal farmers in the country.

Measures for promoting fertiliser

To help the small and marginal farmers, Government has evolved and fixed a uniform price structure for fertilisers throughout the length and breadth of the country. Fertiliser dealers are instructed to display the price charged by them at a prominent place in their shop for information of farmers. They are also instructed to issue a cash/credit memo for sale of fertiliser. Cases of malpractices with the intention of violating uniform price policy are dealt with strictly under the Fertiliser Control Order.

The transport charges up to block headquarters are borne by the Central Government. This is done with a view that farmers do not have to travel long distances for purchasing fertiliser paying higher price thereof. Some of the States like Karnataka are providing subsidy for transporting fertilisers beyond block headquarters to the interior areas to absorb/neutralise the extra cost towards transport.

With a view to encourage movement and consumption of fertilisers in remote and hilly areas where fertiliser consumption is very low, fertiliser manufacturers are advised to deploy mobile delivery vans for meeting the requirement of small farmers in these areas.

Under Fertiliser Control Order, dealers are supposed to sell fertiliser in sealed bags. The requirement of many small farmers is far less than 50 kgs bag. The dealers are, therefore, authorised to keep one bag of each type of fertiliser in open condition for selling small quantity of fertiliser.

The Ministry of Agriculture has instructed all the manufacturers of Urea and DAP to market 10% of their production in 25 kg bags. Various fertiliser manufacturing units have also introduced small bags in the range of 5,10,20 and 25 kgs for marketing in inaccessible, hilly and dry-land areas. This mechanism will help the small and marginal farmers who have limited availability of cash/credit for purchasing fertilisers as also transporting it in difficult and inaccessible/interior areas.

The Ministry of Agriculture has also advised all the State Govts. That small dealers holding 2 tonnes of fertiliser materials at any time may be exempted from dealership registration. This would help the small shopkeepers in the interior and inaccessible areas to stock small quantities of fertilisers to particularly meet the requirment of small and marginal farmers.

Some of the State Govts.charge sales tax on fertilisers ranging from 1 to 5%. However, there are many other states (viz. Punjab, Haryana, Maharashtra, etc.) where no such sales tax are charged. In view of the

recommendation of a High Powered Committee on "Fertiliser Consumer Prices" the concerned State Govts. are being persuaded to exempt chemical fertilisers from all kind of levies including sales tax so that fertiliser can be marketed and distributed at a reasonable price to farmers of all categories, including small and marginal farmers.

With a view to provide Agriculture inputs such as fertilisers, seeds, pesticides, implements, etc. well in advance of the cropping seasons (i.e. rabi, kharif, zaid, etc.) many of the lead fertiliser manufacturers as well as Agroindustries Corporations have opened Agro-service Centres at block and village levels where all such agricultural inputs are available under single window delivery system. Advisory services with regard to package of practices concerning cultivation of crops are also provided in these centres.

This scheme was introduced by Central Government during the Rabi season in 1986-87. Under this scheme, lead Fertiliser Suppliers at the Distt/State levels have been identified. The Distt. Level lead Suppliers, in coordination with Agriculture Department, help in assessing fertiliser consumption and stock position of fertiliser as well as take up fertiliser promotional activities to intensify their uses. To operate the programme at a functional level detail Actions Plans have been worked out by 432 distts. In these Action Plans past consumption is analysed constraints identified and projections are also laid down for fertiliser consumption and promotional activities proposed to be undertaken during next 5 years. The Lead Fertiliser Suppliers at the State level, coordinate the activities of Distt. level lead Fertiliser Suppliers. State Level lead Fertiliser Supplier also finalises the consumption figures and demand projections before each sowing season.

Block demonstration and farmers training

The State Agriculture Departments and fertiliser manufacturers are taking up block demonstration and farmers training to generate fertiliser demand in potential area. However, Central Government is also assisting under a National Project on "Development of Fertiliser Use in Low Consumption Rainfed Areas" to organise 10 field block demonstration and 10 famers' training in each of the 60 identified districts in the country.

At present there are 1.75 lakh fertiliser retail outlets in the country as per following break up:

	No. of retail outlets
1. Co-operative	52,971
2. Agro-industries	2,421
3. Agriculture Department	2,412
4. Private Dealers	1,13,959
5. Others	3,187
	1,74,950

To meet the growing demand of fertiliser it is imperative that the fertilisers should be available at the door-step of farmers. With this objective in view, it has been targetted to open additional 10,000 fertiliser retail outlets per annum, especially in inaccessible areas, by providing an assistance of Rs. 1200/- for each retail outlet. This programme will help the small and marginal farmers to a great extent in receiving the supply of fertilisers in time particularly in remote areas.

Organic Manures and Biofertilisers

In India, there is a vast potential of manurial resources which can be profitably conserved, recycled and converted into organic manures for use in different crops. The potential techniques available to convert organic resources for the purpose of manuring include: rural composting, green manuring, bio-gas slurry utilisation and biofertiliser applications. These technologies are relatively simple, low cost and can be very effectively used in conjunction with chemical fertilisers by the small and marginal farmers for achieving higher agricultural productivity at a relatively low cost. Efficiency in the application of nitrogenous fertilisers such as urea can be enhanced by coating the material with neem cakes. A brief description of these technologies is given below.

Rural Composting

A large number of rural composting methods/ technologies are practised in India and elsewhere. Of them, the important ones are: Indore method, Barkley method, Bangalore method, Chinese method, Vermi-composting, Super-digested composting, enriched and rapid composting.

Indore, Barkley, Bangalore and Chinese methods of composting basically, barring few local variations, fall under three categories, namely, pit method, Heap method and High Temperature composting.

Pit method

The pit should be about 1-5 to 2.0 m. wide, 1 m. deep and approximately 5-6 m. length depending upon the annual generation of organic wastes and size of the farm holdings to be manured. The filling material is brought from the cattleshed and spread evenly in the pit in layers of 10 cm. to 15 cm. One each layer is spread as slurry of 4.5 kg. dung, 3.5 kg. urine-earth cattleshed bedding and 4.5 kg. of inoculum taken from 15 days old compost pit. A sufficient quantity of water is sprinkled over the material in the pit to wet it. The pit is filled in this way layer by layer and it should not take more than 7-10 days to fill; and while during so compaction be avoided. The material is turned three times during the whole period of composting at equal intervals of 15-20 days and at each turning the material is mixed thoroughly, moistened with water and replaced in the pit.

Heap method

During rainy season or in the regions with heavy rainfall the compost may be prepared in heaps above ground. In this case, a basic Indore pile of about 2 m.

wide at the base, 1.5m high and 2 m. long, is dug open. Sides are tapperd down towards base. The heaping commence with a 20 cm. layer of carbonacious material such as leaves, hay, straw, saw dust, chopped corn stalks etc. This is then covered with nitrogenous materials such as fresh grass, garden plant residues, garbage, fresh or dry manures or digested sewage sludge. The alternate layerling process is built up to a height of 1.5 m. and this wetted gradually. The soil is covered with soil or hay to ratain heat and is turned at six-twelve weeks interval.

Chinese method

(High temperature composting) This form of composting is prepared mainly from light soil, urine, sewage, animal dung mixed with chopped plant residues at the ratio of 1:4. The materials are heaped in alternate layers, starting with chopped plant stalks and followed by human and animal wastes; water is added to optimum amount. At the time of making the heap, a number of bamboo poles are inserted in the pile to serve as vents or chimeys. When the temperature reaches 60 C, the bamboo poles are removed and the piles are sealed with earth/mud. The manure gets ready within 45-60 days and is free of pathogens. These materials can than be applied in conjunction with chemical fertilisers..

Green Manuring

Green manuring practice supports higher agricultural production because of its contribution through addition of bio-mass to soil, addition of biological nitrogen, improvement of soil's physical and biological properties; and acting as a feeding source for livestock. The nitrogen level in soil gets depleted very fast through growing of high yielding varieties under intensive cultivation. The loss can be made up by appropriate cropping and manuring system especially by incorporating legume crops or through the utilisation of legumes as green manures. The quantum of nitrogen that could be fixed and added to soil through legumes may range between 60 and 150 kg. per hectare thus benefiting the succeeding crops through long-term residual effect. Generally speaking, the requirement of crops through green manuring system may vary from 4 to 12 tonnes of green matter per acre. In order to get the best results the green manuring crops may be partially fertilised in the initial growth phase.

The most widely used green manuring crops in India are: Dhaincha, (Sesbania aculeata), Sunnhemp (Crotolaria juncea), Arhar (Caianas indicum) etc. Given ideal conditions, both Dhaincha or Azolla can be profitably used as a green manuring source in low-land paddy soil. It is better to grow and plough down the green manuring crops in the same field in which the main crops are grown.

Bio-gas Slurry Utilisation

The economic viability of bio-gas plants depend upon optimum use of bio-gas slurry. The digested bio-gas slurry is a rich manure as it contains about [illegible] per cent N, 0.4 per cent P_2O_5, 2.2 per cent K_2O, trace elements and humus substances. Digested bio-gas slurry can be directly used in standing crops; alternatively this can also be used together with irrigation water or after composting with other organic substrates in a pit. Digested bio-gas sludge (dried slurry) can also be profitably used as a chicken feed, cattle feed and for fish culture in the local pond on a community basis.

Biofertilisers

Biofertilisers are basically microbial inoculants containing active and selected strains of micro-organisms with the ability to fix atmospheric nitrogen and make it available to crops. Under Indian conditions, two types of biofertilisers namely, Rhizobium and Blue-green algae have been found to be efficient in fixing biological nitrogen and make them available to crops.

Whereas Rhizobium cultures are suitable for pulses and legume oil-seeds namely arhar, pea, groundnut, soybean, moong, etc., Blue-green algae are used for manuring the low-land rice.

For mass scale production, quality control and wide distribution of Rhizobium and Blue-green algae at a low cost a National Project on Biofertiliser development has been approved by the Government of India. Biofertiliser application has high cost; benefit ratio. For example, Rhizobium culture applied at 500 gm/ha. at an average cost of Rs. 15-20 can fix biological nitrogen of the order of 60-65 kg. with corresponding savings of chemical nitrogen worth Rs. 300. Similarly, Blue-green algae applied at 10 kg/ha. at a cost of Rs. 10 can provide about 25 kg. biological nitrogen to low land rice with replacement value worth Rs. 125 approximately.

Suitable strains of carrier-based Rhizobium cultures are mixed with minimum amount of water to form slurry with either 10 per cent sugar or 40 per cent gum arabic and pulses/legume oilseeds are added to the slurry so as to uniformly coat the seeds with the inoculant. The seeds are dried in shade and sown soon after. Leguminous crops inoculated with Rhizobial cultures register higher yields and brings a more economic return to farmers with lesser investment.

Each farmer can prepare his own algal biofertilisers as follow:

About 5 kg. material of algal preparation is spread in 1 per cent field flooded with 2.5 cm. deep water followed by broad casting of 2 kg. of superphosphate. The application of phosphate promotes algal multiplication in 2 weeks time in clay soil and 3-4 weeks in sandy soil. Application of suitable pesticides/insecticides (viz. folidol 0.001 ppm), Malathion (0.0075 ppm) or Carbofuran (3 per cent granules-25 g/tray), may be necessary to prevent pests like aphids, snails and mosquitoes. The average yield of algae ranges

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Third world debt crisis and Brady plan

P.C. Upadhyaya

In this article, the author explains Brady plan and its proposals for reducing third world debt burden. Full details of the Brady plan will soon be made available and the present uncertainty about it will be removed in due course of time, says the author.

BEING INDEBTED IS NEITHER UNUSUSL nor a crime so long as the debt is fruitful and within manageable limits. However if the magnitude of the debt assumes such a huge proportion so that its repayment becomes rather impossible and the debt servicing obligations become unbearable, the situation takes the form of a 'debt crisis.' What is applicable in the case of an individual is true in most cases for a nation as well The present Third World Debt Crisis reflects this situation in the world economy. The developing countries of the third world are facing this crisis.

It is estimated that at present about $ 1,300 billion worth of total third world debt remains outstanding. In fact this third world debt burden is piling up year after year, as is evident from the undernoted figures relating to the debts of most heavily indebted mainly Latin American countries:

The Cumulated Debt of the 15 most heavily indebted countries

1980	$ 190 billion
1987	$ 490 billion

and since 1987 the amount has further increased.

What is Brady Plan ?

The United States has recently come forward with a plan popularly known as Brady Plan to ease the Third World debt crisis. This plan was first outlined on Friday the March 10th, 1989 by Mr Nicholas Brady, the newly inducted U.S Treasury Secretary. This U.S. proposal for third world debt reduction is to be supported by I.M.F. and the World Bank. Basically Brady Plan prosposes I.M.F and World Bank funding in support of the negotiated debt reduction owed by third world countries to commercial banks It is a plan to take effective steps to reduce debt and debt service obligations of the third world countries. Brady Plan is a new package of proposals for reducing third world debt burden and it has naturally created interest among financial institutions and governments around the world.

Many Latin American developing countries find a prominent place among most heavily indebted countries of the world. A few weeks back the situtation took a violent turn in Venezuela when riots broke out against the government's deflationary policy dictated by the need to curb imports and to increase exports This has conveyed a message to the developed north to tackle the third world debt issue in an urgent manner

Brady's proposals are novel and differ from the earlier Baker Plan of 1985 (Baker was the then U.S. Treasury Secretary) stressing the need for economic reforms in the debtor countries primarily in the field of fiscal and monetary policies. Countries,in the past, approaching I.M.F for debt relief purpose were also given suggestions in similar manner. At times IMF's suggestions have proved to be very harsh for poorer sections like reducing subsidies of food. Riots have many times resulted because of this for example in Egypt and in Morocco in the early 80's.

Full details of the Brady Plan will gradually be made available and the present uncertainty about it will be removed in due course of time. Currently the European public expression by and large supports the Brady Plan and the U.S. initiative. Japan, the currently largest international creditor country and pillar of the international finanical system is supporting the Brady ideas by agreeing to co-finance debt support programmes through increasing credit lines from the Japanese Export Import Bank. Some G-7 policy makers like Gerhard Stoltenberg, the West German finance minister have also supported the Plan. Mexico has reacted fairly positively because this is the country which is going to be immediately favourably affected if the Plan is accepted.

Criticism and doubts

The European monetary officials are of the opinion that this Brady Plan will have a very small easing

effect on the third world debt crisis. They also fear that these proposals would prove financially costly for the Washington-bodies and it would be politically difficult to mobilise the resources. Some European Central Banks like the Bundesbank and the Bank of Italy have harboured doubts about Brady ideas. Mr. Lamberto Dini, the Director General of Bank of Italy, has warned that Brady ideas would raise expectations which would be difficult to satisfy. As per Dini $ 10 billion worth of concessional finance from IMF and World Bank would reduce the third world bank bebt burden by about 25 to 30 billion dollars only. This relief will be of a very small magnitude. In terms of money owed to commercial banks by 15 heavily indebted mainly Latin American middle income countries the relief will be around 10% only. The heavily indebted countries were singled out by James Baker (Brady's predecessor) for a special support measure. Thus this small amount of debt reduction will not have much impact on the third world annual debt servicing burden.

On the other hand Dini argues that mobilising funds for this purpose will be a difficult task. Experience shows that the members of IMF negotiated for months before they could agree to mobilise funds worth $ 7.8 billion for Enhanced Structural Adjustment Facility to help low income developing countries at the end of 1987.

Moreover Brady's proposals do not suggest anything about economic disciplines to be followed by debtor countries. Debtor countries need to be persuaded to have a market based economic reform programme but Brady's proposals are not clear in this direction If the debtor countries notice that IMF backed debt reduction schemes are applied to a few countries only they may even stop paying interest

European monetary officials are suspicious that Brady ideas are primarily intended to assist Mexico and Venezuela only which are very important countries for U.S.A. while the burden is to be shared by other industrialised countries which are members of the IMF and World Bank.

However the issue of IMF support to the third world debt reduction is to continue to be an important issue before the world monetary community according to the European monetary officials.

It appears that Brady has not considered the views of the majority of the third world countries while formulating his plan. During last years many third world countries have come forward with proposals to restructure the entire international financial system so that its harshness could be mitigated. For example India and Mexico have proposed a ceiling on debt service obligations and a relative stability in international lending rates.

Many commercial banks which lend internationally, particularly American ones, are found inclined towards innovative plans for the restructure of the international financial system. Many have made substantial provisions for bad debts in their accounts. In 1987 Citi Corp Bank showed losses because of such provisions. Some western and Japanese banks even tried debt-equity swaps. But such instances have been to few.

Conclusion

In fact no third world debt restructuring programme can succeed unless OECD and G-7 countries (U.S.A., Canada, Britain, France, W. Germany, Italy and Japan) open up their doors for their imports from developing countries and offer them rewarding prices. An immediate possibility feared is that Mexico might deny to repay its foreign debt and a Venezuelan type of situation might crop up. Mexico's foreign debt amounts to $ 102 billion and the whole world economic and industrial community will feel the shock wave if a moratorium is announced on this huge debt. □□□

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Promoting the philosophy of compost, instead of fertiliser, will go a long way in achieving the thrust objectives of the Eighth Plan.

"Agriculture is more important than industry for the simple reason that industry depends on agriculture. Industry, which is no doubt, very important will not progress unless agriculture is sound and stable and progressive." Jawaharlal Nehru (Nov. 8, 1963). □

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from 20-35 kg. per cent area of land. Algal fertilisers should be applied at the rate of 10 kg/ha. over the standing water in the field, one week after transplantation.

Application of neem-coated urea

Multilocation trials conducted under All-India Rice Improvement Project and Agronomic Research Project of the ICAR have shown that applications of urea, coated with 20 per cent weight of neem cake have increased the rice production significantly by way of minimising the loss of nitrogen through nitrification process. This technology can be successfully used in low-land paddy system. For application of neem-coated urea or urea-supergranules specially designed fertiliser applicators with Special device of depth adjustment and line sowing can be used. The technology can also be successfully used by small and marginal farmers in raising community nurseries.

In case of neem-coated urea, a modest beginning has been made to popularise this practice in the States of Maharashtra, Gujarat, Karnataka, Orissa and Tamil Nadu. However, considerable efforts are required to be made in collection, processing and distribution of neem cake for coating of urea before the material may be adopted for mass scale propagation. □□□

(Contd. from page 11)

order to facilitate faster introduction of new science and technology based process.

A country of India's size and diversity, planning for accelerated growth, must have built-in-flexi-bility to cope up with diverse uncertain situations.

Models of development

The development models of the Western affluent countries, used so far, have their own constraints arising out of the totally changed socio-economic situations and it is high time for India to act for her own self through development models of her own making-model based largely on indigenous resources and in harmony with her own environment and needs. Ours is a preponderantly rural society. We have more men than machines. Of course, we need a lot of more machineries, chemicals, and technical know-how but these should be used to supplement and enhance our own capacity and enthusiasm rather than to increase our independence on those affluent societies or to snatch work from our people's hand and make them jobless. Similarly, Gandhian approach on village oriented and decentralized planning system must be kept in mind while thinking about the Eighth Five Year Plan for the economy. Regarding western technology-that we use, if we take only the western, science and not their technology and develop our own technology we may be able to minimise the worst impact and may perhaps turn out poor into more productive hands instead of marginalising them through adoption of technology that does not suit them.

External front

There is need to take a fresh look at the Balance of payments (B.O.P) scenario for the Eighth Plan in the wake of large trade deficit since 1980-81. Balance of trade situation worsened considerably during recent years. The country has suffered due to huge trade deficit year after year in the seventh plan. The annual trade deficit around Rs. 5,500 crores during the sixth plan has reached a new record of about Rs. 8,000 corres during 1987-88. The growth of exports, in terms of volume, continued to be weak i.e. less than 6%. In contrast, imports rose sharply, The critical importance of exports is well recognised to ease situation. Therefore, policies for increasing the exports need to be implemented vigorously. Further, increasing efforts to improve the competitive-ness of our exports, fuller utilization of installed capacities in infrastructure industries and also greater cost consciousness in the establishment and operation of enterprises need to receive greater attention. Moreover, our efforts at efficient import substitution should be strengthened in the area where imports can be reduced by substitution.

Better allocation of resources

Though the country is comfortable with regard to Wheat, rice, cotton, raw jute, etc. shortages persist in oil seeds, pulses, chillies and sugarcane which are associated with the lags in the productivity in rain-fed and dry areas; in addition to varietal imbalance as, for example, in the case of cotton, where the production of long and extra long-staple is much higher than the present level of consumption. While the surpluses pose problems of storage and marketing, besides resulting in increased subsidies, shortages create serious strains on prices and the Balance of Payments. These imbalances call for policies aiming at better allocation of resources to the crops based on comparative endowments of the different regions. In correcting these imbalances, an Integrated Agricultural Policy encompassing production, pricing and marketing can play a significant role. Dry land farming needs greater attention in terms of investment, cropping patterns, and technology to achieve required significant breakthrough in it In this direction vigorous efforts are necessary to overcome the existing deficiencies and raise productivity in these areas; since improvement in agricultural production is a base for better industrial performance.

Above all we can say that no plan or programme can deliver the goods unless the political, administrative and social commitments to the task of growth is complete and unwaivering. What is required is a determined will and motivation at different levels of the economy. □□□

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economy in administration. One of such methods could be that state governments may put the ceiling on the per capita expenditure on establishment under various heads, taking into account the functional roles of municipal bodies and their scale For effective compilation of such norms, they may link the grant-in-aid code with the expenditure efficiency level.

In order to do so, while the salaries of existing staff should be protected as far as possible, any proposal for creation of additional staff may be considered only after ensuring that the concerned municipal body will be able to meet the establishment cost of the proposed post without sacrificing the operations and maintenance of civic services. □□□

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Two growth centres for industrialisation in Punjab

It has been decided to set up two growth centres in Punjab in the first phase. The growth centres will be identified in consultation with the State Government concerned. It is expected that growth centres would act as the magnet for attracting industries and once develped, would give a fillip to the industrialisation of the State. □□□

Assistance to land allottees

Extension of financial and development assistance to allottees of land under various programmes is proposed to be undertaken on a target-oriented basis. This was disclosed by the Minister of State for Agriculture & Cooperation, Shri Shyam Lal Yadav at a meeting of the Consultative Committee of Parliament attached to the Ministry in New Delhi recently.

The Minister informed the members that a Centrally sponsored scheme was already being implemented under which an assistance of Rs. 2500/- per hectare was given to each allottee. Shri Yadav said that the assistance had been extended to future Schedule Castes and Schedule Tribes allottees of Bhoodan and Government land also from the last financial year. The objective to raise the allottees of land above the poverty line he said, would now be pursued more systematically by extending them the benefits of other rural development programme like IRDP, etc. to make their land more productive. The Minister expressed the view that intensive implementation of rural employment programmes like Jawahar Rozgar Yojana supplemented by IRDP would exercise a beneficial influence on the social and economic position of agricultural labourers.

Speaking about the land reform programmes during the 8th Five Year Plan, the Minister said that in distribution of land a certain percentage of pattas would be issued to women beneficiaries exclusively. States have been instructed that in future, pattas under the various land distribution programmes should be issued jointly in the name of husband and wife.

The Minister further said that the States had been asked not to reserve surplus ceiling land for public purposes but exclusively use it for distribution among the rural poor. He said that Madhya Pradesh Government had taken a lead by amending ceiling law under which it would be possible for them to take possession of the land declared surplus and distribute it even though it was under litigation. Other States, he said could take similar measures.

Shri Yadav said that the Government was making efforts to bring informal tenants and share croppers on record to provide them security by law and credit facilities and other developmental assistance. About 42 lakh persons have been allotted 18.27 lakh acreas of lakh under the land ceiling laws. The area declared surplus till now is less than 2 per cent of the cultivated area. ■■■

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No-Tobacco

Tobacco-related diseases have assumed menacing proportions the world over, accounting for unacceptably high levels of morbidity and mortality. This is doubly tragic, as these diseases are among the most easily preventable.

Even with all the available evidence implicating smoking with a variety of respiratory and other diseases, per capita cigarette consumption among adults has increased by 22% in the past few years in Asia alone. It is estimated that there are 600 000 new cases of lung cancer every year. Of these, 90% are due to smoking.

While 630 000 deaths annually are attributable to smoking in India, tobacco chewing is estimated to cause about 90% of deaths due to oral cancer in South-East Asia. Grim enough as these statistics are, what adds a new and sad dimension is the fact that of the one death every 13 seconds caused by tobacco-related diseases, a growing percentage is of young persons in developing countries. And recent studies indicate that women are at added risk.

It has been shown, beyond any reasonable doubt, that a pregnant women passes carbon monoxide and nicotine on to her baby. This could cause fetal damage, and her child is likely to be born underweight. Women smokers are also more susceptible to osteoporosis, a major cause of fractures.

Then there are other risks to children whose parents smoke. It is now known that children of smokers are twice as likely to contract ailments like bronchitis and pneumonia than children whose parents are non-smokers.

The risk of cardiovascular diseases, cervical cancer, earlier aging and adverse effects on fertility are some of the other problems that are an added risk for female smokers. ■■■

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BANKING



Optic fibre communication in Railways

The Indian Railways have taken up a massive project of laying optic fibre communication systems for a network of 900 kms. in the first instance. This project, the biggest of its kind in the country and perhaps in the world, is being implemented in the Durg-Nagpur, Nagpur-Itarsi and Itarsi-Bhusawal sections of the Central and South Eastern Railways. The total cost of the project is Rs. 40 crores. A speciality of the project is that along with the latest technology of optic fibres, the system of mobile radio communication technology is also being introduced for the first time in the country. With this, drivers in running locomotives in these sections can talk to the control rooms and vice versa for better co-ordination and better train control operations. The first two sections of the project between Durg-Nagpur and Nagpur-Itarsi is expected to be completed by September this year and the third section between Itarsi and Bhusawal by March next year. Optic fibre cables will replace the existing copper conductor cables being used so far and they are technically superior systems. They are of much higher capacity to carry communication traffic.

Railways have also taken a policy decision that in future all newly electrified trunk routes will have the optic fibre communication system to provide more reliable and modern technology.

Railways have been according a very high priority to railway electrification during the Seventh Plan. Against 1550 kms of electrification during VI Plan, the Seventh Plan performance is likely to touch a level of 3200 kms. At the end of the 7th plan 15.5% of the total route kilometres of the Railways will come under electrification and the traffic handled in these electrified routes will be 46% of the entire freight movement and 37% of the entire passenger movement of Indian Railways. ❑❑❑

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Gender inequality in India

N.P. Panigrahi

To overcome the gender inequality in India, legal equality, was granted to women which enabled them to improve their status in the society. However the legal equality itself is is not all that sufficient. The real women symbolise the state of oppression, discrimination and slavery. To overcome the gender inequality an awareness among women, about equality with men should be created in their minds. Women of all region, class and caste should cooperate in the task of their own redemption.

THERE IS NO DEARTH OF EULOGIZING the concept of equality, though in practice it is very often flouted. Our age, it is said, is the age of equality No two persons are identical with one another. Social and biological inequalities persist But due to the existence of soul in everybody all men are equal, opines the spiritualist. Without going to the mystic domain of spiritualism, modern man takes it for granted that all his fellow beings are his co-equals and it needs no reason to justify it. To put it in the words of I. Berlin "equality needs no reason, only inequality does so" India; the land of hierarchy and holism, also accept it as a value. Here, the constitution stands for equality of status and of opportunity.

Against this backdrop, we will analyse the status of women in general under which umbra and penumbra comes the women of every region i.e, rural and urban, India.

Inferior position

In all societies women nave occupied an inferior position to men. The case of India is no exception. To quote Neera Desai, "Ideologically woman was considered a completely inferior species, inferior to the male, having no significance, no personality... the patriarchal joint family, the customs of polygamy, the purdah, the property structure, early marriage, sati system or a state of permanent widowhood, all these contributed to the smothering of the free development of women" Hindu scriptures confined women to domestic chores. Their status in reation to their male counterparts were also very low. Of course, women were fondled, loved and revered in the domestic domain. But, legal, moral and social handicaps were there. More or less she had to live a routine life of child bearing, rearing, cooking, praying and fasting for the good of the family and dying in course of serving others. The scriptures specifically mentioned that a woman was to be maintained and protected by her parents, husband and son during her childhood, youth and old age respectively.

But, after independence, legal equality was granted to them. Men like Dayananda, Ram Mohan, Vidyasagar and Gandhi tried a lot for their status enhancement. The struggle of all those men and others culminated in the granting of legal equality to women and attitudinal change of the male-dominated society to some extent towards them.

Due to legal eqauity, women got chance to compete for the position of respect and responsibility Now, we see that women are working outside homes in various offices, colleges, factories, etc. M N Srinivas notes, "the career women in India is very visible and it is significant that the society at large has quietly accepted women's assumption of new roles", and further "Men have accepted without protest women as their bosses in government offices, schools, colleges and Universities. The Indian Civil Service under the British had closed the doors for women. But free India has opened the doors and we see women achieving top positions. It is also seen that, women are working in various capacities starting from village level worker to Prime Minister and Chief Minister etc. or from Gram Sevika to District Collector Even, they have been recruited in the police and military. But, it is the story of a few isolated pockets of India. Further the relation between a woman officer and male sub-ordinate in the office and their attitude towards her, not because of her style of functioning but becuase of her being a woman is a matter worth probing. Further, the working woman's status in her family is another area which needs closer observation Simultaneously, the case of purely housewives and working women of unorganized sector should be analysed to get a clear picture of the status of Indian women.

Legal equality has enabled some women to hold

dignified positions. But legal equality is not all that is sufficient. The recognition of women as free individuals like their male counterparts without prejudice of any sort both in the domestic and public domains will be the only hallmark of perfect equality. Of course, in all spheres, perfect equality between both the sexes is not possible or desirable in the present world. But, problem arises when one group is deprived of its basic privileges only because of gender over which one has no control.

A majority of women are in the unorganized sector. Their employment in this sector consists of self-employment in petty trade, food processing or in family units of traditional occupations or manufacturing establishments. Industries where the number of women are high are cane-work, coir products, silk worm rearing, jam & jelly making, tobacco processing etc. In agricultural field they get seasonal employment in planting, harvesting etc., in the nearby villages. Concentration of women workers in such fields accords them the status of family workers and the consequent low wages, more work and an exploitative atmosphere. In addition to this, they have to collect fuel, fodder and water for the family consumption. Women are forced into unorganized sectors because of illiteracy, low technical skills, restricted mobility due to family obligations and so on. In professional jobs their representation is negligible, For example, according to Ministry of Social Welfare data for 1978, for every 100 males in Supreme Court and State High Courts the number of famales are O and 2 respectively. In I.A.S., I.P.S. and Indian Educational Services, their number is 9, 0.09 and 5 respectively. Generally people from good economic background go for all these coveted jobs.

To sum up, the womenfolk or half of the population are denied equal status and right to blossom their full personality. Those women, who have gone to higher positions, may be persons of exceptional ability or unusual luck or daughters of liberal perents. But the real women symbolize the state of oppression, discrimination and slavery. The women of India are looked from an angle of pollution and purity and the attitude towards them as Andra Beteille holds, is one of protective rather than punitive as is the case towards the untouchables.

In India the peasantry normally allow its women to work in the field. But with increasing prosperity a peasant does not like his women taking to this vocation. It is the turn of the women to retire first from the field. In contrast, Chinese males retire first from the field letting their women working if they become rich. Chinese anthoropologist Fei observes this trend. He goes on to describe the case of a particular landowner who lived a life of leisure but had a pretty young daughter who could be found working in the fields either on her father's or on some other farm, almost on any day in the busy season. Similarly in the house of an employed couple, if one has to leave the job, it is the woman who usually is asked to do the same.

This protective attitude is the very bane of Indian women. It has restricted their mobility and kept them under the category, soft, fair, frail and liquid. Perhaps, full freedom of women was in the state of nature. But the day the institution of family came into existence, the women surrendered her freedom to a great extent. To put the words of Shree Mother (Pondichery) "thus woman becomes inferior to man because of the attraction she feels for the male and his strength, because of the desire for a home and for the security it brings. Lastly because of the attachment to maternity."

If this is the root cause of female inferiority then no law or no amount of awareness or no extra charity from the side of men can liberate them. Perhaps with the abolition of all such handicaps women can have parity with men.

Of course, equality does not mean uniformity and perfect equality is a myth. For a healthy society and heavenly home mutual cooperation, harmony and complementarity are essential. According to Mahatma Gandhi both male and female are not expected to do the same type of jobs. To exhort women to come out with guns to protect homes is a sign of downfall for both men and women. Protection of the home from external danger is as important as keeping the house in order; and the first task lies with men and the second one with the women. So, parity between two sexes does mean excellence in respective fields and getting ample opportunity to develop one's full personality is the hall mark of equality. So, it is not only abolition of disabilities through legal steps but also presence of abilities through social and moral sanctions that a woman can blossom her full personality and larger society can avail itself of the result of her talent.

How can it be achieved ?

Such awareness that basically there is no difference between the two sexes can be created to a great extent through proper education. Enlightened men should be flexible enough and women should be assertive enough to set concrete examples for others to emulate. Dowry and poverty are seemingly the two most devilsh social evils that give women an inferior position. Poverty can be eradicated to a great extent through participation of women in the job market as skilled labour and in households as educated wives, With proper education they can check wastage and save to a considerable extent and can influence the men to toe the lines. Dowry system has gripped the minds of almost all through the demonstration effect caused by the shameless display of money power of some wealthy persons. If an awareness can be created that, this extra wealth is the public plunder and a stigma can be attached to dowry system then perhaps half of the misery of women will vanish and it would have a salutary effect on the society. Real voluntary organizations, schools and colleges, news-

(Contd. on page 12)

Status of women in India

L.S. Suxi

The status of women in Independent India occupies an important place and all efforts are being made to establish the significant role that she can play in the upliftment of her own self and the society at large. According to the author, literacy alone will make women realise their potential and equip them for better wages and employment. For this, media should be entrusted with the task of educating people on the various themes.

IN A COUNTRY WHICH BOASTS OF ITS glorious heritage, where woman has not only enjoyed the equal status but has been described in the scriptures more than the better half, it has become necessary today; for the Government to create special laws and enforce them rigorously to give the desired social and economic status to the women in India. Why only do we talk of equal status, when our scriptures have already gone ahead by recognising the women as the sacred JANANI (The mother). Quoting a proverb from the old Testament, we are told, "She looketh well to the ways of her household, and eateth not the bread of idleness." Similarly Guru Nanak has warned those who assign the 2nd place to women. "It is she who gives brith to the kings." In the Hindu scriptures, she is dubbed as DEVI and SHAKTI the most cherished symbol of love and creation. She is said to be the power, behind the plough, the force behind the machine and the creative inspiration for the poet and the artist. In fact it is the woman who has been the pervasive urge behind the creation. After having installed the DEVI (Deity) on the highest pedestal of reverence, what went amiss? What was it which brought the downfall?

Although the article 16 of our Constitution has recognised the right of equality for women in India, yet the findings of the National Report on women which was published by the Govt. of India under the title 'Towards Equality' nearly 15 years ago, were very depressing and discouraging. However, one good thing which the report did, was the creation of a stir on National level. The condition of the women in our country could be so hollow, this gave us a rude shock and set the nation athinking. It was, perhaps, under this stress that the Govt. envisaged the National Perspective for women highlighting the problem. This realisation once again installed the proverbial DEVI at the center of the stage, with care and concern all around. This was not a meager achievement. Since then various schemes have been introduced in the spheres of technology, education, health and agriculture, concerning the problems of the women. As a common housewife, she manages the house, tends the fields, looks after the cattle, works in the factories, mans the industry and yet remains in the background. She feels shy to claim the equal partnership with her counterpart. But does the fruit of her labour grant her the status she deserves?

The 20 point programme envisaged by the Prime Minister Shri Rajiv Gandhi, lays specific stress, besides other points, on the equality of women. With a view to achieve the desired goal the scheme has been described as the road to the destination. Some of the important targets which have received attention at all levels are:

(a) Raising the status of women
(b) Highlighting the specific problems
(c) Creation of mass consciousness about the status of women
(d) Provision of training and facilities of employment.
(e) Participation of women in the nation building activities.
(f) Creation of mass hysteria against dowry and social exploitation of women.

The status of women in India, is tagged to the peculiar set up of our society which is divided in itself among the unequal halves— the rural population and the urban population. The experts have confirmed this statement with the help of statistics we are told that out of 368 million women, 276 millions live in the rural areas and their vast majority is illiterate. The figures place this majority to 75%. Out of the rest, 20% are semi-literate and hardly 5% may be termed as

educated. Thus a large mass of humanity is ignorant about their rights or status. They do not claim it because they are not aware of it. They are not aware of it, because they are not educated.

Taking into consideration the participation of women in our offices and factories, the percentage is as low as 14% This means that their participation in various fields of activities need a special fillip. The Govt. of India under 20 point programme have taken pains to stress on the objectives in this respect. While laying down the fundamentals of this scheme, the National Perspective very aptly comments upon the sad state of affairs concerning the status of an average woman in India. It tells us that the majority of working women are over burdened and underpaid. This is a very significant observation which leads to conclude that the women in India have no other choice but to accept the life of drudgery. A wedded wife is a bonded slave for all times to come. The uneducated, unskilled woman is exposed to exploitation and special provisions have to be made to safeguard her interests. As such the concern of the Govt is highly justified and genuine. The problem has received special attention of our planners who have included this in the 20 point programme.

As a welfare state, it becomes imperative for the Govt. to safeguard the fundamental rights of the women and make provisions in the law for upgradation of their status in order to establish equality in the distribution of work and wages. One wonders why the simple principle 'equal work, equal wages' is not adhered to ? Years of prejudices have dubbed the woman as non-worker and to crown it all, comes in the way, her own attitude towards her man. It is a pitty that all these years, she has remained shackled to her age old immage of a 'DASI' (Slave girl) or 'Paon Ki Juti' (Shoe). In the tradition ridden society, her position has been no better than a pair of shoes, which may be laid aside, discarded or changed, at the sweet will of the master. From the very childhood she was taught to remain a slave to the man, may be her father, brother or the husband, supposed to be her protector. The confusion created in her life, has brought her to the cross roads where the proverbial 'Shakti' appears to be helpless and needs support of others, to keep her self going. This help has come now through the parliamentary legislation approving the 20 point programme-1986 and finally launched on 1st of April, 1987.

Today the law grants immense power to the women. She has the right or equal status in the social, cultural, economic, and political fields. But what was lacking, was the will at her own part to claim equality with the man. It was the world of her own disbelief and ignorance which always kept her as the shadow of her man. As such the first step towards upgradation is to educate her and make her conscious of her position and status. Though education in India is free and compulsory, yet she is not able to permit her children, especially the girls, to attend the school. The irony of the situation is that inspite of the protection provided by the law, she remains unprotected.

It has often been said that woman is physically fragile and temperamentally unfit to do strenuous jobs involving hard labour. But it is not the physical incapacity which has kept her in the background. It is the illiteracy and lack of facilities for the technical training. It has been noticed that in the fields of agriculture, fisheries, horticulture, forestry and household industries, women have been working side by side with their male partners. This statement is correct as far as the rural sector is concerned. However, in the urban sector, they are comparatively at a disadvantage, because their services can be utilised only in the factories as unskilled manual labourers or as domestic servants in the private and unorganised sectors. Although in the cities a small percentage of educated women is employed in the offices as clerks, Receptionists and Telephone operators, yet the percentage of employment remains very low. As stated earlier illiteracy is the villain of piece. There is no denying of the fact that better education and vocational training will improve their potential and equip them for both wages and self employment. The Central Social Welfare Board has come out with a major programme of Socio-Economic Advancement for Women, which will help them in setting up training-cum-production centres. Many othe voluntary social organisations have also come in the field. A tirade against the social evils like dowry, bride-burning, child marriage and prostitution have been started. Exploitation of women in any form is punishable under the law.

Education and publicity alone make the people conscious of the problem. In order to enhance awareness and mass consciousness of the rights of women, a programme of educative publicity has been taken up. The media has been entrusted the task of educating people regarding various schemes launched under this programme. It goes without saying that employment potential of the trained women is comparatively better in the skilled labour sector. As such arrangements have also been made to impart vocational training to the needy women. Besides, there are other schemes concerning education, maternity and child welfare, which are the part and parcel of the strategy adopted by the Welfare state. The progress of these programmes will be monitored regularly on periodic basis by the department of Women and Child Development.

For working women, provisions of creches have been made, where they can leave their children during working hours. Special houses and hostels have been built where the working women can stay. These institutions not only offer accommodation but provide relief and support during moral danger. They provide care to the needy during illness, offer help during hardship and look after their legal and medical problems.

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Wage differentials for women agricultural labourers

Dr. Narayan Prasad Sharma

Women as agricultural labourers are discriminated in wage payment throughout the country even in operations such as transplanting and weeding which are women intensive operations and are better performed by them. In some areas, the female wage rates are lower than the prescribed minimum wages. The author, therefore, vehemently pleads for effective implementation of the Minimum Wages Act in respect of women agricultural labourers.

WOMEN PLAY A SIGNIFICANT ROLE in Indian agriculture. According to 1981 Census, compared with 65% of men, 79% of female working population was actively engaged in agriculture. (33% as cultivators and 46% as agricultural labourers). Almost 50% of the rural female workers were working as agricultural labourers and 37% as cultivators. The respective proportion of male rural workers was reversed with 55% as cultivators and only 24% as agricultural labourers. Women as agricultural labourers participate in several activities such as seeding, transplanting, weeding, fertiliser-application, plant protection, thinning, harvesting, processing, selling, winnowing, storing, looking after the animals, kitchen gardening etc. Several of these operations are exclusively carried out by women only. Thus by participating in above agricultural activities, they directly or indirectly influence the course of agriculture and animal husbandry.

While, the role of women in agriculture has been much appreciated and highlighted by the intellectuals and agricultural scientists, the adequate attention has not been paid to the various problems faced by women agricultural labourers. There has been very slow progress in ameliorating the working conditions and socio-economic status of women especially in the rural areas. The declining trend in the employment of women agricultural labourers due to the mechanisation in agriculture, underemployment, low-income status, low wage rate etc are the problems which require immediate attention of planners and policy makers.

Inspite of the fact that the constitution of India has provided equal rights and privileges for men and women, the women labourers are discriminated in wage payments even in the agricultural operations which are better performed by women labourers. This not only violates the established principle of "Equal pay for equal work" but also lowers their income level, which in turn, affects adversely their socio-economic status, standard of living, efficiency and their productivity.

Keeping in view the above, it will be pertinent here to examine the following situtation at the micro level (District level).

(i) To what extent do the women agricultural labourers lag behind the male agricultural labourers in wage payment ?

(ii) Whether the women agricultural labourers are paid the minimum wages fixed by the State Governments under minimum Wages Act

Methodolgy

Keeping in mind the decentralised planning and considering that the various welfare schemes relating to agricultural labourers are formulated and implemented at district level, the present study has been undertaken at district level This study presents the wages paid to the male and female agricultoral labourers in Mathura District and is based upon the primary survey. The choice of Mathura district for investigation is guided by two considerations: First from agricultural point of view, it is an average and representative district of U.P. as it is neither as backward as the districts of eastern and Bundelkhand regions nor as advanced as other districts of western region. Second the special schemes like Marginal Farmers and Agricultural Labourers, crash Scheme for Rural Employment etc were launched in this district by the State Government.

Stratified random sampling technique was adopted to select 27 villages ([illegible] of the total [illegible] villages in the district and 300 agricultural labour families (30% of total agricultural labour families, from each selected village). 214 male agricultural labourers and 82 female agricultural labourers were interviewed to collect the wage data.

Wage Differentials

The average wage rates earned by the male and female agricultural labourers have been incorporated in table-1. The women labourers were paid Rs. 5-83 per day in agricultural operations against Rs. 9-72 per day to their counterpart male labourers. Thus the wages paid to women labourers were less by Rs. 3.89 per day in comparison to male labourers. In other words, they were paid at the rate of 3/5 of daily average male wage in various agricultural operations. Disaggregating the figures at the tahsil level, the wage difference varies from Rs. 2.84 in Mathura tahsil to Rs. 4 83 in Sadabad tahsil.

Further the situation is worse in non-agricultural operations and here also women lagged far behind men in wage payments. The difference between male and female wage rates in non-agricultural activities was Rs. 6.57 which is much higher than the difference in agricultural wages,

Barring Mathura tahsil, which is very near to Mathura city, where wages are affected by urbanisation, the differences were much higher in the tahsils where wage rates for male labourers were relatively higher to other tahsils. This leads to the conclusion that the degree of wage differentials on sex basis varies from area to area and it was much intensive in the areas where wage rates for male workers were relatively higher than other areas. But this should not be accepted as a final conclusion and it requires a further investigation both at micro and macro level.

The explanation for wage differentials on sex ground can be bifurcated on two counts. Demand side factors and supply side factors. On the demand side, there is a social (male) prejudice which results in the employer assuming the existence of sex differences in performance. On the supply side, there may be imperfections and bottlenecks. Women are less mobile than men. Due to their family responsibilities they try to seek the jobs within their villages/neighbouring villages. The women's poor bargaining power further widens the wage differences. The women labourers may have a lower reservation price unlike men who may hold until the wage rises to the desired level. The agricultural labourers in India are the lowest strata of society living in abject poverty and their family income is meagre to maintain even the bare necessities. In such a situation women in agricultural labour families work as agricultural labourers to supplement their family income and, therefore, they offer themselves at a lower price in the rural labour market. Again men and women may be unwilling to work together. The opportunities for women workers [illegible] restricted if they insist upon group [illegible] in consequence they may have to accept [illegible]

Table 1

The average wage rates for male and female agricultural labourers in Mathura District

	Agricultural operations			Non-agricultural operations		
District/Tahsils	*Male wage rate*	*Female wage rate*	*Differentials*	*Male wage rate*	*Female wage rate*	*Differentials*
1. Mathura	8.61	5.77	2.84	11.67	6.50	5.17
2. Chhata	9.60	4.88	4.72	11.60	4.30	7.30
3. Sadabad	9.97	5.14	4.83	10.06	5.30	4.60
4. Mat	9.39	5.0	4.39	11.27	5.00	6.27
Mathura District	9.72	5.83	3.89	11.73	5.16	6.57

Source :— Primary Survey

*Average time spent per day was adjusted by taking into account of part days and the above daily wage rate is that of full day.

Table 2

Agricultural operation-wise Male/Female wage differentials per day in Mathura District

Agricultural operation	*Male agricultural labourers*	*Female agricultural labourers*	*Wage differentials*
1 Transplanting	9 43	7.40	2.03
2. Sowing	9.43	5.59	3.84
3 Weeding	9.09	5.50	3.59
4. Irrigation	9 73	7.37	2.36
5. Harvesting	10.21	8.37	1.84
6. Processing	9.48	6.68	2.80

Source: Primary Survey

Table 3

The actual wage rate and Minimum Wage Rate for female agricultural labourers in Mathura District

District/Tahsils	*Actual wage rate*	*Minimum wage rate*	*Differential*
1. Mathura	6.77	9.50	– 2.73
2. Chhata	4.88	9.50	– 4.62
3. Sadabad	5.14	9.50	– 4.36
4 Mat	5.0	9.50	– 4.50
Mathura District	5 83	9.50	– 3.67

Source: Primary Survey.

Wage differentials by oprations

The wage differentials in various agricultural operations on sex basis have been provided in table 2. Here we have confined to examine the wage differentials in the six agricultural operations which are widely participated by women labourers. As table 2 indicates the wage differential exists in all the six agricultural activities. It is highest in sowing (Rs. 3.84)

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Women workers in unorganised sector in India

Sudha Kumari

A large segment of women labour forms the part of unorganised sector, which results in exploitation of women. Unless they are given education and training, their lot can never be improved, says the author.

THIS SECTOR EMPLOYS A LARGE segment of the female workforce in India It covers marginal workers as well as workers living on the borderline of starvation and survival. The committee on status of women in India (1971-74) also held that a proper assessment of the nature and extent of women's participation in employment, their problems and disabilities arise according to the degree of organisation,, of the sectors of employment Moreover, This sector presents two problems of social justice to the policy makers. One, an increasingly large portion of working women (about 73%) has been working in this sector and two, given the cheap availability of labour in this sector, there is a chance of more and more activities being diverted to this sector. It indicates that the working women as a whole will be gradually relegated to the background They will be concentrated in low paying jobs and, therefore, will receive an ever declining share in the products of development.

Concentration of women workers

Let us see why in India relatively more women are found in unorganised sector Here, both supply and demand side have to the analysed. On supply side, there are some handicaps which prevent the women from spreading to organised sector—

(a) Immobility of labour–This is the greatest handicap of female labour that keeps them confined to low paying, irregular and local avenues of employment in unorganised sector Today, the mobility of female workers is not such a big problem. But even if they migrate, their exodus takes place in gangs, with their family They don't migrate separately and independently. This immobility, or better to say, limited mobility of women force them to accept low paying jobs like agricultural labour, food processing and local construction

(b) Natural factors– Most of the female work force is in the age group of 13-40 years which also happens to be the reproductive age of Indian women Usually, women of this class have more than 3-4 children This means that they will not always be available for continuous and regular type of work due to their child bearing and child rearing roles

(c) Illiteracy and low skills–For higher paying jobs education and training is a must. But for most of the women in India education and training are still not easily available Employment problem on farm sector stems from lack of skill and training alongwith occupational immobility. Alternative job opportunities declined with decline of traditional handicraft and cottage industries. They, therefore, lingered on in agriculture mainly as agricultural labourers. On demand side, certain factors encourage the employer to employ more women. They are :–

(a) The immobility of female workers encourages the employer to employ them in low paying jobs.

(b) There are certain low paying jobs which are regarded as purely fit for women, like weeding, paddy transplantation, harvesting, thrashing, grinding, household work handicrafts etc.

These demand and supply factors inspire the employers to absorb women in secondary jobs and encourage the women to accept even the low wages because their real wages in terms of real benefits like proximity to their family and children are higher in their subjective judgement even though the nominal wages are lower.

Women in unorganised sector

The unorganised sector provides employment to a very high proportion of working women in India. Out of total working women in 1981, the unorganised sector alone employed 96.33% women. The absolute number in this sector was 46.24 million in the corresponding years. This can be shown in the following table-

Table 1

Women work force in India in 1971 and 1981

	1971	*1981*
Female population (as % of total population)	264 M (48 2%)	331 M (48 3%)
Work participation	31 M	48 M
Working women as % of total women	12 13%	14 44%
Total women in unorganised sector	29 M	46 24 M
Women in unorganised sector as % of total working women	94 00%	96 33%
Women in agriculture as % of working women	82 61%	81 23%

From this table, it is clear that the ratio of women in unorganised sector has gone up during the decade 71-81 from 94% to 96%. It implies that female work force has increased more than the job opportunities for them in organised sector. This has thrown the higher proportion of women into secondary jobs. Thus work participation in unorganised sector has been an increasing phenomenon.

While work participation in general and that in unorganised sector in particular have grown over the years, the proportion of women in agricultural sector has marginally come down from 82.61% in 1971 to 81 23% in 1981. This is clear from table I given above However, agriculture still employs more women than other sectors as shown in Table II

Table II

All India work force in unorganised sector in 1981

Sectors	*Male*	*Female*	*Total*
Agriculture	114.1 M (75%)	37 56 M (25%)	151 7 M (100%)
Manufacturing	16 8 M (81 %)	4 3 M (19%)	21 1 m (100%)
Services	22 4 (84 %)	4.4 M (16 %)	26.8 M (100 %)
Total	153 4 M	46.2 M	199.6 M

Agriculture still employs women to the extent of 25% of the unorganised work force while the same figure comes to only 19% and 16% in manufacturing and services.

Work conditions

The unorganised sector is characterised by jobs of local nature which involves the local people around. Women who are bound by the traditional sense of domestic responsibility, are concentrated in this sector.

Secondly, the unorganised sector in India remains intact from all the legal protection and economic benefits enjoyed by the workers in organised sector. The laws can't be implemented forcefully in unorganised informal sector. In this sector the method of payment of wages, retrenchment are all arbitrary. The hours of work are longer than prmitted by law and there is no overtime paid to them. Most of the women workers have never heard of overtime. Medical and maternity benefits are conspicuous by their absence. Even the wages given to women are lower than to men. Wages also vary according to site. In brief, the unorganised sector gives to women only insecure and unprotected employment with long hours of work and little reward

Research findings

Causes of work participation in unorganised sector-Ranade and Ramachandran have found on the basis of their study on the female sweepers that poverty is the main compulsion behind their employment. Nirmala Bannerjee (1976) also found on the basis of studies on Calcutta that women had a target income level which they tried to attain in order to survive. Over a period of 7 years an increasing number of women were coming forward even though the wage rates remained almost constant. Dr. Mrs. K P. Singh's study also found that female work participation was growing due to increasing cost of living and other socio-psycho-situational factors and motivations

Pattern of employment

Neera Desai and Maitreyee Krishnaraj found that economic development with its capital intensity has adversely affected female labour absorption in this sector. Growing mechanisation has reduced the number of women in foodgrains processing, food and vegetable products, foot wear and earthware. The same trend is seen in construction, trade and commerce. But in cotton textiles employment has increased

Neera Desai and Acharya's study confirms that the "displacement" of female labour is continuing. There has been some structural change which is tilted against female occupations. Displacement of women by men was more pronounced in Punjab and Haryana than any where else. According to Anker modern employment favours men rather than women

Chakravarti and Tiwari argue that with industrial development there will emerge a preference for men even in predominantly 'feminine' jobs. But Ranade and Ramachandren have denied any such possibility. According to them there are some sectors like transplantation, food processing and domestic services where women do get a preference over men. Changes in land relations have adversely affected the rural women wokers in agriculture. It has pushed them down to a state of dependence on men, according to the study on Kerala by K. Saradamoni. The pattern of employment is also affected by demographic and non-demographic factors. Introduction of new crops, new technology, increasing modernisation of agriculture, increasing landlessness and parcellization of land have all greatly affected the women's role and job opportunities for women. This view is supported by the findings of Anker and others.

Occupational discrimination

Kate Young and others have found that with emphasis on economic development women have been drawn into wage labour but as in capitalist countries the majority of women in 3rd world countries is concentrated in gender specific occupations. Since the labour distribution at home is equally unbalanced, it compounds the problem of Women's participation in secondary employment.

According to Patricia Caplan, it is the familial role assigned to women which results in their less preparedness for job market, lower qualifications, a more interrupted working career as well as low paid jobs.

Some research findings also suggest that peasants in third world and housewives everywhere engage in subsistence production which reduces cost of labour for capital and thus ensures continuous super-exploitation.

The occupational discrimination results from concentration of women in less skilled and lower paying jobs in higher proportion than the men. Table II shows that out of 153.4 m men in unorganised sector only 114.1 m men (75%) are working in agriculture, the same figure comes upto 81.2% for women in this sector. It shows that the proportion of women in this sector is much higher than that of men. In manufacturing this figure is 14.5% for men and only 9.3% for women. Like wise, the corresponding figure in services sector is 10.9% for men but a dismal 9.5% for women. This suggests that women are clustered in low paying secondary jobs. This phenomenon can be traced to their immobility from agriculture resulting in concentration of women as well as reduction in wages due to lower marginal productivity. According to Diana Leonard Barker and Sheila Allen the core elements in secondary sector are dispensability, low investment in human capital, social difference and lack of solidary organisation.

The major task therefore, is to remove disguised unemployment from agriculture and shift the extra labour to other jobs. This can be done by providing training, education and guidance to these women so that they could be absorbed in other jobs. Then provision of alternate jobs becomes necessary

Pay discrimination

Women workers are not only concentrated into low paying jobs but their pay is also lower than that of men working in equal capacity. There is an assumption that greater the muscular strength component, greater is the difference between male and female. In jobs where brain component is implied there is no such difference and hence no wage discrimination. But unorganised sector mainly rests on manual work. In this sector the average earnings of men and women of equal qualification and equal job widely differ. Even after adjustment for differences in hours of work, age and schooling, the earnings of women do not equal those of men. Nirmala Bannerjee's study has provided a table with striking differences in wages

Table III

Weekly earnings of female workers as percentage of male earnings-urban all India 1972-73. female earnings as % of men's earnings

1 Illiterate	48.80
2 Illiterate with some technical training	45.54
3 Literate with primary education	28.07
4 Literate with primary education and some technical training	76.41
5 Middle educated	71.96
6 Middle education with some technical training	74.44

we find that with higher education and technical training the wage differences have narowed. Lack of training is thus, a cause of this difference.

In unorganised sector it is very difficult to implement equal remuneration Act. The construction work where both contractual and casual labour is combined, there is a general tendency of substantial differences in wage rates. Richard Anker and Katherine Hein have produced 3 theories as the basic causes of wage difference. One the neo classical new home economics explains it in terms of factors like family responsibilities, physical strength, education, training, hours of work, absenteeism, turnover and low human capital investment. Women are generally characterised by these features alongwith frequent withdrawal from work resulting in less experience.

Second, labour market segmentation theory explains that primary jobs with higher earnings need stability and are awarded to men. Women being casual workers are relegated to the background with low paying jobs.

Third, the gender (feminist) theory accuses women's inferior social position and home responsibility as the basic cause for this wage diffenence. In another study Anker and Mayra Buvinic gave human capital model, over-crowding model and institutional model as causes of dualism in labour market.

Whatever be the case, wage differentials are there in unorganised sector and have been tolerated by women in the sector.

Problem of unionisation

Most of the women workers in unorganised sector have never heard of a trade union. They never fight for equality of pay or occupational justice. They are unaware of various welfare measures and equal wages Act. Ranade and Ramachandran's study has confirmed the tragic inffectiveness of protective laws. But in the absence of a strong union their implementation is not possible. The consciousness from within is absent here Apart from ignorance of such unions there are other causes, too, like lack of spare time and faith in unionism, loyalty to the household, passiveness and fear of male member's objection at home

Unemployment

According to Indira Awasthy, in India the women form a large segment of unemployed manpower.In unorganised sector where women are compelled to work, they face this problem in the form of disguised unemployment with nominal wages According to Patricia Caplan and Kate Young etc.the women in the third world form the industrial reserve army of labour Rekha Mehra's findings reiterate the fact that participation of women in workforce as a whole is declining and their unemployment has been increasing in agriculture, trade and commerce.

Suggestions

Unemployment, wage and occupational discrimination are the main problems of the women workers in this sector. Their problems are aggravated by lack of seriousness in general, about their studies and lack of information available on them.

Corrective measures like poverty eradication programmes and Mahila Mandal Schemes impose a preconceived organizational structure on them which they cannot assmilate. Even the welfare measures through aids and funds paternalistically provided for their disadvantaged status attempt to treat only the symptoms rather than the causes.

Land distribution is generally suggested as a corrective measure for improving the lot of women in rural sector. But a study by K. Saradamoni has given striking conclusions. Land alone cannot give women work and income. Even with a fairer redistribution there is not enough land for all to have cultivable holdings.

An overall development strategy therefore, is needed with integration of agriculture and industry with employment generation productivity and efficiency. This alone can serve the purpose. Private property, the ideology that suggests it and the production process and the culture that emanates from it, has to be substituted by a socially advantageous system of ownership and control.

From providing gainful employment and raising the standard of living of the working women in rural sector, a rapid growth of industry is necessary. Then only the methods for self-development like Mahila Mandal can be useful.

Unorganised women require education and technical training to switch over to more specialised and high paying jobs. At the same time, they will also need to be aware of their exploitation and claim equal treatment for equal work. They need to be unionised therefore.

Wide ranging and detailed study needs to be made in this field and be published to provide information about the working women of unorganised sector. □

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papers and other mass media can do a lot in this regard. The women particularly the educated ones are to bear heavy responsibility for the redemption of the entire women folk They should oppose dowry system and other social evils and make a vow not to marry greedy boys however rich, powerful and handsome they may be Without sacrifice nothing can be achieved And in every age only a few enlightened people act as the vanguard army of a cause So, some committed educated women should come forward to reach the message of their equal status to every nook and corner of India. It is a shame that most of the Mahila Mandals and so called voluntary organizations have become cultural clubs and contract agencies to avail money from different sources Liberal men, young and old should come forward to voice against social evils, because it is women who bear the effect but it is men (fathers, brothers of women) who bear the incidence of dowry system A handful of people like Dayananda, Ram Mohan, Eswar Chandra and Mohandas created new cultural ethos through their committed tireless efforts and thus widow burning (labelled as sati system), female infanticide, child marriage, and so on , went out of picture. Now new ethos is required to abolish focticide bride-burning, bride-beating etc Action follows sanction and vice versa The women themselves know how they are discriminated against and tortured by a patriarchal system. So, women of all region, religion, class and caste should cooperate in the task of their own redemption. Then only they may hope for a State where they can grow to their full stature and serve the humankind in an effective way.

Women's participation in panchayati raj

THE YEARS IMMEDIATELY AFTER independence saw hectic activities that led to the emergence of the era of planned development aimed at the creation of an egalitarian society based on the socialist patern The Panchayati Raj movement was launched to mobilise public opinion, to encourage the participation of people in the developmental tasks at grassroots level, and to provide leadership and support to the comprehensive Community Development Programme which was started in 1950 for transforming our tradition bound stagnant rural society into a productive and progressive one The Panchayati Raj institutions were in fact, considered to be the most effective instruments for realising the goals of economic betterment and social justice for the least privileged

Marginal participation

Participation of women, who constitute nearly half the population, in Panchayati Raj institutions has been considered essential for enabling them to participate effectively and independently in democratic and political processes and to influence decision making It has been recognised as a step towards equal society and a means of realising the developmental goals for women

Over the years, women's participation in Panchayati Raj institutions has been marginal because of several socio-economic constraints Except for Andhra Pradesh, Gujarat, Maharashtra, Karnataka and Punjab, where some women members have been elected to village level Panchayati Raj institutions in respectable numbers in other States, their representation is either non-existent or negligible. Though in some States the balance is sought to be struck through nomination and co-option of women members, it has not-brought any perceptible impact on women's participation in Panchayati Raj Bodies. Co-option is done only in letter and not in the spirit of getting women involved in Panchayat activities.

National perspective plan

Government has recently drawn up a National Perspective Plan (1988-2000 A.D.) for effective participation and empowerment of women at the grass roots level in democratic institutions. The Plan has recommended that 50 per cent of all grass roots-level functionaries should be women. To facilitate this, minimum educational qualifications for them should be relaxed Some of the other recommendations of the Plan are reservation of seats for women upto 30 per cent at Gram Panchayat to Zila Parishad levels and in local municipal bodies, reservation upto 30 per cent at the level of executive heads of all bodies from village Panchayat to district level, and the need to declare a certain percentage of constituencies in the lower tier of Panchayati Raj as exclusively women's constituencies.

Need for adequate training

The plan also suggested the need for proper training for all women members of Panchayats and other bodies to enable them to exercise their authority adequately A massive conscientization programme for women in general needs to be taken up and modules designed for this purpose should adequately deal with social and economic constraints which restrict their participation in political processes and institutional structure of democracy. Separate allocations are required to be made for this purpose The need to link women's development programmes with Panchayat and local functionaries for effective participation of women in development was also highlighted in the plan

National conference

Recently a National Conference was held at New Delhi to discuss the issue of women's participation in Panchayati Raj bodies The participants at the conference supported reservation for women and emphasised that election was the right method for selecting women to fill the reserved posts. At the conference, the Prime Minister Shri Rajiv Gandhi assured a larger role for women in Panchayati Raj institutions

It is however, felt that mere reservation will not solve the problem unless women members are given commensurate powers to function effectively. The participants at the conference suggested that quoram at the meetings of panchayats should be considered incomplete if the women members were not present The need to form a separate committee for dealing with women's issues was also highlighted at the conference. This committee would give a feedback on the progress made by various developmental programmes for women and would also help in projecting the social and economic problems which restrict the participation of women in decision making processes The need to link women's

(Contd. on page 18)

Indian agriculture in the last 35 years

Dr. Badar Alam Iqbal

During the last thirty five years, India has recorded a considerable progress in agricultural sector. Yet the progress is not upto the mark so far as the area, population and resources are concerned. However, the author says that there is an overall increase in the yield of foodgrains per hectare. To make the agricultural production grow at higher rate, substantial investment must be put in land development, development of irrigation facilities, better utilisation of quality seeds and so on. If these measures are followed it will go a long way in keeping agricultural sector in sound footing.

FOR THE LAST 35 YEARS INDIA has been an agricultural economy and due to this very fact, agriculture occupies a predominant position in the development process of Indian economy The Seventh Five Year Plan which is in progress, has given much emphasis for accelerating the pace and development, taking steps to increase growth of agricultural production, to remove regional and cropping imbalances, to evolve new varieties of seed, to raise consumption of fertiliser to expand irrigation facilities, to extend the supply of institutional credit, price support to farmers and so on. These measures, no doubt do have a favourable impact on the progress of agriculture and the country could be able to achieve self-sufficiency in agricultural production in general and food in particular. Although there has been significant improvement in the agricultural productivity and the yield per hectare has gone up agriculture will continue to play an important role in the years to come.

In India, nearly 68 per cent of the total population depend upon agriculture. Table I shows the trends in acreage and output of food grains in India between 1950-51 and 1985-86. Data set out in table I reveals that acreage under foodgrains cultivation went up from 97.3 million hectares in 1950-51 to 127. 1 million hectares in 1885-86 indicating an over all rise of nearly 37 per cent Similarly, total output of foodgrains also had increased by 173 per cent i.e. from 55.1 million tons to 150 5 million tons during the same period. This analysis shows that the rate of increase in production of foodgrains is many times higher than the rate of increase in the acreage under foodgrains cultivation. As a result, there has been appreciable increase in the yield of foodgrains per hectare. In 1950-51 yield per hectare was 566 kgs and this figure went to 1182 Kgs per hectare in 1985-86 It is important to note here that total acreage under foodgrains cultivation has an upward trend till 1983-84 and thereafter total acreage under foodgrains has gone down by more than 3 per cent But it is interesting to note that total output of foodgrains has an increasing trend till 1985-86 except a very marginal decline in the output of foodgrains in 1982-83 i.e to 128.4 million

Table 1

Trends in Foodgrains Area and Production in India between 1950-51 and 1985-86

Year	*Area (Million-Hect)*	*Production (Million Tons)*	*Productivity (Kgs/ Hectares)*
1950-51	97.3	55.1	566
1960-61	115 6	80 0	710
1970-71	124.3	108.4	872
1980-81	126 7	129 6	1023
1983-84	131 1	150 6	1041
1985-86	127 1	150 5	1182
% increase/ decrease over 1950-51	30 6	173.0	108

Source; State Bank of India Monthly Review, may 1984 The Economic Survey of India, 1986-87

tons from 129 6 million tons in 1980-81. It is also interesting to mention here that yield per hectare has a gradual and steady increase over the years.

Foodgrains constitute nearly 70 per cent of the total gross cropped area in the country, though less than 30 per cent of the area under foodgrains is irrigated Kharif season (June-October) accounts for three-fifth of the foodgrains production and rabi season (October-May) constitutes the remaining two-fifth. Over 54 per cent of the value of agricultural output is contributed by food grains. Fertiliser consumption has also gone up considerably during the last 25 years. Acreage covered under high-yield varieties of seeds accounts for 53 per cent of the total area under cereals Total foodgrains production went up from 55 million tonnes in 1950-51 to 151 million tonnes in 1985-86 and will be around 153 million tonnes in 1987-88, But the progress made on the agricultural front does not leave room for relief. It is a matter of great concern that the annual rate of growth in agricultural production stood at 2.6 per cent which is slightly above the rate of growth of population at 2.2 per cent and one bad monsoon or drought or flood could upset the precarious balance For this state of affairs, many causes are there. Firstly, institutional shortcomings, secondly, technical drawbacks and human factor etc. Thirdly, non-availability of good quality seeds, manures, tools etc .with which famers undertake agricultural operations. Fourthly, regional imbalances in regard to production as well as crop-wise In India regional as well as crop-wise imbalances in agricultural production are still persisting in the country. This can be seen from the data that the rise in foodgrains output from 1979-80 to 1985-86 was 41.7 million tonnes. Of this increase over two-third came from the major producing states namely-Uttar Pradesh, Punjab, Andhra Pradesh, Haryana, Maharashtra, and Madhya Pradesh Added to this, as much as nearly 9 per cent of the total foodgrains production is produced by Punjab alone, the share of which in the total population of the country comes to 2 4 per cent This explains the large marketable surplus of foodgrains which Punjab has been contributing

Yield per hectare in the traditional rice cultivating regions like Eastern and North-Eastern have lagged far behind and require to be stepped up. For example, rice output in the Eastern States such as Orissa, Bihar and West Bengal accounted for nearly 36 per cent of the country's total rice output and 35 per cent of the total acreage under rice cultivation in the country. Similarly, production also needs to be increased in the traditional rice growing states of North-Eastern regions which contitute 8.2 per cent of the total acreage and nearly 7 per cent of the total rice production in the counry. As compared to this, non-traditional rice growing States such as Punjab, Haryana, Uttar Pradesh and Rajasthan accounted for nearly 34 per cent of total rice prouduction and more than 10 per cent of total area under rice cultivation. Even in case of wheat too there has been wide regional disparities in productivity. In Punjab it is 3,007 kgs. In Haryana it is 2,526 kgs. Hence, special attention should be paid for increasing productivity in other wheat growing areas/states, particularly Madhya Pradesh (1092 kgs), Bihar (1343 kgs). Uttar Pradesh with a figure of (1340 kgs). Rajasthan with a productivity (1, 803 kgs).

Cropping imbalance

Indian agricultural sector is also facing the problem of imbalances in the cropping pattern which can be seen from the fact that share of wheat and rice in total foodgrains output went up from 53 per cent in 1950-51 to more than 73.8 per cent in 1985-86. Whereas the share of coarse grains and pulses declined from 30.7 per cent and 16 7 per cent in 1950-51 to 17.6 per cent and 8.6 per cent in 1985-86 respectively. Similarly, per capita availability of vegetable oil is nearly 6 kgs as compared to the world average of 13 kgs per year. India will have to make efforts to double the production of oilseeds from the present level of about 14 million tonnes to 26 million tonnes. Therefore, oilseeds production will have to go up by nearly 6 per cent per year as against the current annual growth rate of less than 2 per cent. Another instance of cropping imbalance is that of sugarcane, which has been showing wide cyclical fluctuations in output, causing corresponding variations in price.

Hence, to achieve a balanced approach in regard to the cropping pattern, it is essential that an over all integrated price policy for all agricultural commodities should be evolved as an incentive to farmers Though some short-term fluctuations will not cause very wide movements in the output of various crops. Therefore, not only technological break through is necessary to increase the yields of pulses, oilseeds and coarse grains in particular, but there is also an urgent need to introduce an integrated price policy for agricultural commodities

Role of procurement prices

In order to increase foodgrains output, it is essential to ensure that prices should serve as an incentive for increasing production and procurement so that farmers could get reasonable returns. But in these years it appears that the price incentive has not recorded much success in increasing procurement and building up food stocks. As a result, the Government procurement operations cover only about one-seventh of the total rice, one-fifth of total wheat and only a fraction of one per cent of coarse grains produced in the country. In India, Agricultural Prices Commission (APC) after taking into consideration the cost of cultivation has recommended the procurement prices. Table II indicates the trends in procurement prices of paddy, wheat and coarse grains from 1971-72 to 1986-87.

From table II it is observed that the procurement prices of paddy has increased from Rs. 58 per quintal in 1971-72 to Rs. 146 per quintal in 1986-87 indicating an over all rise of nearly 152 per cent.

similarly, the procurement prices for wheat went up from Rs. 76 per quintal to Rs. 162 per quintal between 1970-72 and 1986-87 showing a rise of more than 113 per cent. Likewise, the procurement prices of coarsegrains went up from Rs. 55 per quintal in 1971-72 to Rs. 132 quintal in 1986-87 i.e. an over all increase of nearly 140 per cent. Till 1977-78, procurement prices showed marginal change and were often not adequate to meet the cost of production. But thereafter, the Government increased procurement prices for foodgrains to offset, to some extent, the increase in input prices and to ensure a reasonable return to the cultivators. From 1977-78 to 1986-87 procurement prices of paddy were increased by nearly 89 per cent to 146 per quintal, that of wheat by 47.3 per cent to Rs. 162 per quintal and that of coarse grains by nearly 79 per cent to Rs. 132 per quintal.

In order to provide a reasonable return to cultivators the policy does not appear to have achieved much success. For instance, a comparison of procurement prices fixed with the available estimates of cost of production shows that often the procurement price was not adequate to cover the full cost of production though the gap has been considerably narrowed down According to available data the cost of production shows that as against the existing procurement price per quintal, the per quintal cost of production of paddy is higher in the major paddy growing states namely-Andhra Pradesh, Bihar, Haryana, Tamil Nadu and Uttar Pradesh Though the procurement price has been raised, it is lower than the cost of production per quintal in Bihar and just about covered in Andhra Pradesh.

Irrigation

Irrigation development in years to come will have to be based on quick completion of on-going schemes such as utilisation of potential and better management of unfinished irrigation projects, medium and even minor which are in an advanced stage of completion and are capable of yielding full or partial benefits in near future. New schemes should be restricted to medium irrigation projects in drought-prone areas, and in tribal and backward areas minor irrigation scheme must be adopted These scheme should be funded adequately in years to come so as to yield benefits either within the Seventh Plan or in the early years of next plan period

Financial means

In years to come it is stipulated that direct finance to agriculture should account for 18 per cent of the total bank credit by March 1987 and 20 per cent of the total by the end of March 1988. According to the Annual Report of the Ministry of Finance, Government of India fixed a target of 22 per cent of the total bank credit. But it is heartening to note that banks have already crossed the target and touched a level higher than that. Therefore, the new target should be exclusively set for agriculture instead of for agriculture and allied activities.

There are various financial requirements and banking facilities in the development of agriculture. Some financial requirements and banking facilities are as under; appointment of various working groups and study groups, simplifying the lending procedures and introducing changes into the system and methods of financing, formulation of bank credit schemes, introduction of special projects and programmes namely SFDA, MFAL, DPAD, CAD trial sub-plan, hill areas development programme, desert development programme, special poultry production, programme, intensive cattle development programme, small fishermen development programme, IRDP, special component plan and like others under which the Government provided organisation, staff and subsidy so as to help beneficiaries and banks to participate in the process of development. Introduction of an effective role to credit in development and measures should be taken to link various credit schemes efficiently. In this process ARDC/NABARD has needed assistance for improvement quantitatively.

While the above performance can indeed be considered a modest one, every one has to endeavour to probe in detail, to find out the reasons and compelling factors under which the commercial banks have been working the task of lending in rural areas. This is essential in order to appreciate that in future all out efforts and policy will have to be evolved to improve the capabilities of banking system to increase the credit absorption capacity in rural areas where poductivity, production and profitability of agriculture enterprise could be stepped up by developing money to bring science and technology to the doors of the farmers. It is against this background that one has to appreciate the present challenges and future tasks.

From the foregoing pages it has brought out that agricultural production can be increased by increasing area under cultivation by increasing productivity in terms of yield per hecatre and by extending more irrigation facilities. At present, there are nearly 10 million hectares of fallow land. over and above the current fallows which stands at nearly 15 million hectares which is a potential source for raising agricultural production. Out of the total area of nearly 329 million hectares in the country net cultivated area comes to 143 million hectares and gross cultivated area is about 175 million hectares. However, since the scope for expanding area under cultivation is limited, further increase in agricultural production should come from enhanced yield per hecatre as well as from the multiple cropping Similarly, there is plenty of scope for increasing yields per hectare in respect of major crops in the country which are far below yield levels obtained in other producing countries of the world.

There is futher scope for raising productivity on irrigated lands. According to the information supplied by the Planning commission irrigated lands

should yield at least 4 to 5 tonnes of grains per hectare as compared to the existing yield which is hardly 1.9 tonnes on an average. Hence the yield per hectare of irrigated lands, needs to be increased by ensuring timely availability of agricultural inputs namely-fertilisers, irrigation, and high-yielding varieties of seeds. For this operation according to the Planning Commission, nearly 1,000 crores are required. As against the total irrigation potential of 66 million hectares created till the end of June 1986, actual utilisation comes to 61 million hectares. This means the irrigation potential of nearly 5 million hectares is not being utilised which is really a clossal waste.

For increasing yield per hectare, it is also essential to promote optimum use of fertiliser. Today India's average stood at 46 Kgs per hectare. The figures for the consumption of fertilisers per unit of gross cropped areas range from 2.5 kgs per hectare in Nagaland to 151 Kgs for Punjab and as high as 231 kgs for Pondichery.

Increasing use of high-yielding varieties ('HYV) of seeds is another aspect to be seen in raising productivity. Today, most of the HYV coverage confines to wheat and rice. In 1985-86 nearly 75 per cent of the total cropped area under wheat was covered by HYV's in the case of rice it comes to 55 per cent of the total cropped area. But for coarse grains and cereals HYV coverage was at 30 per cent of the total cropped area. Added to this, in case of rice and wheat, the use of HYV seeds is only concentrated in Punjab, Haryana, Uttar Pradesh and Andhra Pradesh

Table II

Trends in procurement prices of paddy, wheat and coarse grains from 1971-72 to 1986-87

(Rs. Per Quintal)

Year	*Paddy*	*Wheat*	*Coarse grains*
1971-72	58	76	55
1972-73	58	76	60
1973-74	70	82	72
1974-75	74	105	74
1975-76	74	105	74
1976-77	74	105	74
1977-78	77	110	74
1978-79	85	112 5	85
1979-80	95	115	95
1980-81	105	117	105
1981-82	115	130	116
1982-83	112	142	118
1983-84	132	151	124
1986-87	146	162	132
% increase or decrease over 1971-72	152	113	140

Source: Economic Servey of 1987-88

Future potential

According to the latest Economic Survey, Agricultural sector's performance will improve if the economy is to perform well in years to come. Total agricultural production may have to grow at a higher rate as compared to the underlying trend rate of growth attained in the past years. To achieve this objective, it is of paramount significance that substantial investment must be put in land development, development of fallow land, development of irrigation poetntial and better utilisation of already created and increased production of quality seed, pulses and oilseeds. In order to increase agricultural production, full utilisation of existing irrigation potential has been rightly emphasised. There is also need to educate the rural masses for effective and better utilisation of new ways and means of agricultural production. Regular demonstrations in regard to use of fertilisers, chemicals and agricultural appliances is the need of the day. But quality seeds must be made available to farmers through cooperative societies at the village level. Substantial amount should be earmarked for the development of irrigation facilities. Role of Development Banks and NABARD must be more positive and encouraging one. All these measures will go a long way in keeping agricultural sector on sound footing and a better performance could be possible in years to come.□□

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The status of women in Independent India. occupies an important place and all efforts are being made to establish the significant role that she can play in the uplift of her own self her family and the society at large. In the Doll s House, Ibson Helmur says, 'Before all else you are a wife, and a mother'. But the next dialogue refutes this claim when Nora replies, 'That I no longer believe, I think that before all else I am human being." The resolve taken by the nation under 20 points programme renews our commitment ot the uplift of the women's status in India. Not only the removal of inequality and imbalance but improvement in the quality and standard of life is our goal. □□□

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(Contd. from page 14)

development programmes with Panchayat and local functionaries for effective participation of women in development was also highlighted in the plan.

The formal representation of women in Panchayati Raj structures through reservation of seats, election etc. is not a sufficient condition for their effective participation unless and until it is supplemented by measures which help in resolving the-socio economic pressures inhibiting them. The same can be realised by mobilising women through awareness campaigns and inter-personal communication, by implementing the scheme which help them in attaining economic independence and by enhancing educational facilities at their doorsteps. □□□.

Recent trend in agricultural growth

Dr. S.S. Khanna, M.V. Pavate and Brij Bhushan

Indian agriculture has at last turned the corner and this is evident from the current estimates of crop production figures issued by the Ministry of Agriculture. According to the authors Indian agriculture is growing at around 3 per cent annual and the challenge is to accelerate it to 4% in future. They suggest various steps to achieve the same.

ACCORDING TO THE CURRENT ESTIMATES of crop production figures issued by the Ministry of Agriculture, the growth of agricultural output of 20.69% in 1988-89 over the previous year, it is likely that the Indian agriculture has at last started turning the corner. The annual average growth rate of 4.33% in the 4 year period 1984-85 to 1988-89 compares favourably with a compound growth rate of 2.35% per annum in the T.E. 1987-88 over the T.E. 1980-81. Similarly foodgrain output which grew by 4.62% as compared to 2.20% growth in agriculture during 1988-89 was widespread over crops and regions.

The medium-term performance has been evaluated on the basis of growth rates worked out for T.E. 1980-81 to 1986-87. Area under foodgrains recorded a negative growth rate of (–) 0.3 per cent, while production and productivity achieved positive growth rates of 2.2 per cent and 2.5 per cent, respectively. Amongst food crops, wheat production and productivity grew at a much faster rate of 4.0% and 3.6% per annum, respectively as compared to 2.7% growth rates of production and productivity of rice. However, the gap between wheat and rice growth in the period 1967-68 to 1986-87 narrowed down in the period 1980-81 to 1986-87. Coarse cereals suffered a set-back in the eighties as witnessed by negative growth rates of area, production and productivity. Production of oilseeds in the eighties grew at 2.90% per annum while productivity showed a slow growth rate of 1.4%. The year 1988-89 shows an upward trend in all crops studied. Table-1 indicates the growth of area, production and productivity of selected principal crops.

Another way of evaluating medium-term trends is to compare performance of agriculture in the drought year of 1987-88 with the previous trough of 1979-80. Foodgrains production in 1987-88 increased by 2.9% compound per annum over 1979-80 as compared to the historical growth rate of 2.7% per annum. Among the commercial crops, oilseeds performed better at 4.4% annum as compared to the growth rate of 1.89%. Sugarcane production represented an annual growth rate of 5.4% as against the growth rate of 2.97%. Jute & Mesta and Cotton did not perform better, but aggregate agricultural output grew by 3.1% compound per annum between the two trough years of 1979-80 and 1987-88. Thus, recent performance would be at 3% annual growth as compared to the historical growth rate of 2.62%. Thus, there does not seem to be any deceleration in agricultural output growth.

This method of evaluation can be cross-checked by examining the performance of agriculture also between the 2 peak years of 1983-84 and 1988-89. Foodgrains production grew by 2.2% per annum between these 2 peaks compared to the historical growth rate of 2.7% and annual average growth rate of 4.62% for 1984-85 to 1988-89. Annual growth rate recorded by oilseeds was 4.7% compared to the growth rate of 1.89% and 4 year's annual average growth rate of 7.18%. This shows that oilseeds improved significantly in the recent years. Cotton performance in the peak years was better as evidenced by an annual grwoth rate of 8.5% compared to the historical growth rate of 2.35% and four years annual average growth rate of 6.35%. Sugarcane grew by 3.8% per annum in 1988-89 over 1983-84 as against the growth rate of 2.97% and annual average growth rate of 4.89%. Jute & Mesta showed a negative growth of (–) 0.1% as against the growth rate of 1.62 and annual average growth rate of 5.71% during 1984-85 to 1988-89. The agricultural output grew at 2.99% per annum (compound) between the two peak years of 1983-84 and 1988-89 as against the compound growth rate of 3.1% per annum for trough years of 1983-84 and 1987-88 and the historical growth rate of around 2.7% Thus, the experience of the Seventh Plan, peak to peak and trough to trough growth, suggests that Indian agriculture has turned around and is now growing at around 3% annual. The challenge is to accelerate this to 4% in future. During

the last two years of Seventh Plan this process has started.

Seventh Plan Performance

The performance of foodgrains production was constrained by unfavourable weather conditions in the first 2 years and severe drought occured in 1987-88. As a result the targets for foodgrains production set for 1985-86 to 1986-87 could not be fully achieved. Similarly, oilseeds indicated short falls in the achievement of targets fixed for the first three years of the Plan. During 1988-89 foodgrains production is expected to be of the order of about 170 million tonnes exceeding the target of 166 million tonnes fixed for the year. All the crops are likely to exceed their respective targets set for 1988-89 excepting jute and mesta (Table II).

Analysis indicates that crop production was affected in many States due to unfavourable weather conditions during the second and third year of the Seventh Plan. The drought in the third year, i.e. 1987-88 badly affected the area and production of foodgrains. It has been observed that some States made good progress in boosting the foodgrains production despite drought and unfavourable weather conditions prevailing in the year 1987-88. The States which improved their foodgrains production in the drought year 1987-88 compared to the year 1986-87 are Andhra Pradesh, Assam, M.P., Maharashtra, Punjab, Tamil Nadu and West Bengal. The States which recorded decline in the total foodgrains production during the same period are Bihar, Gujarat, Himachal Pradesh, J&K, Orissa, Rajasthan, Haryana, Karnataka, Kerala and U.P.

Consumption of fertilisers

Consumption of fertilisers shows a substantial increase rising from the level of 65.6 thousand tonnes in 1951-52 to 90.72 lakh tonnes in 1987-88. An annual growth rate of fertiliser consumption during this period works out to be 14.7%.

Trend in the growth of fertiliser consumption

Year	(000 tonnes)
1951-52	65.6
1961-62	338.3
1967-68	1539.0
1980-81	5615.6
1984-85	8211.0
1986-87	8737.0
1987-88	9072.0
1988-89	11300.0(p)

(p) Provisional

Growth rate (%)	
1951-52 to 1987-88	14.7
1951-52 to 1966-67	20.7
1967-68 to 1987-88	9.3
1985-86 to 1988-89	9.7*

(*Four years' annual average growth rate)

The target and achievement of fertiliser consumption during the first four years of the Seventh Plan shows that there has been shortfall varying between 10 to 15%, which was mainly because of drought/unfavourable weather conditions. The fourth year of the Seventh Plan, i.e. 1988-89 has been a very good year for the development of crops throughout the country. It is expected that consumption of fertiliser would be of the order of 5.3 million tonnes in the kharif season, 6.0 million tonnes in rabi 1988-89. Keeping in view the coverage of irrigated area under different crops, additional irrigated area expected from irrigation schemes including installation of shallow tubewells in the identified States covered under Special Foodgrains Production (SFPP) the consumption target for the year 1989-90 works out to be 12.5 million tonnes.

H.Y.V. Programme

The achievement of the annual target in the first two years of the Plan was of the order of 93 to 94%. There was a shortfall of 11.02 million ha. in the achievement of the target for 1987-88.

Progress achieved in the coverage of area under HYV during the first four years of the Seventh Plan and suggested target of 65.00 million ha. for the terminal year of the Plan, i.e. 1989-90 are indicated in Table 3.

It is clear that the wheat area almost stands covered under HYV. Only area under rice has to be brought under HYV on a larger scale. Keeping in view all these factors, a target of 65 million ha. to be covered under HYV has been suggested for the year 1989-90.

Pesticides

The Seventh Plan has set a target of 75 thousand tonnes for the final year while the consumption of pesticides was of the order of 67.2 thousand tonnes in 1985-86, 73.5 thousand tonnes in 1986-87 and 56.00 thousand tonnes in 1987-88 (anticipated). The target suggested for 1989-90 is 80.0 thousand tonnes taking into consideration the action to be taken under the Framework Action Plan.

Crop Production during 1989-90

An attempt has been made in this section to estimate crop production during 1989-90 in respect of rice, wheat, coarse cereals, pulses, oilseeds, sugarcane, cotton, jute & mesta, using the various growth rate models. The following assumption are made:

(i) The T.E. 1985/86 is taken as the base year for all the crops in the State.
(ii) 70% of additional fertiliser nutrient would be used for foodgrains crops.
(iii) 75% of additional GIA (Gross Irrigated Area) and GCA (Gross Cropped Area) to be used for foodgrains production.

(iv) The total additional irrigated area available is estimated at 8.4 million ha. from all sources.

(v) Normal weather conditions.

The estimate of foodgrain production target for 1989-90 based on these is as follows:

Target for 1989/90	Million tonnes
(1) Sum of the base years (TE 1985/86) production level of food crops in the States.	147.52
(2) Additional foodgrains production.	25.73
(3) Contribution by the remaining States & UTs.	2.00
Total	175.25

Crop-wise production estimates on the same lines are as follows for the year 1989-90

a. Foodgrains	(Million Tonnes)		72.50
(i) Rice	-do-	72.00.	54.00
(ii) Wheat	-do-	54.00	33.75
(iii) Coarse Grains	-do-	33.75	
(iv) Pulses	-do-	14.75	
Total	-do-	175.00	
b. Oilseeds	-do-	16.0-	17.0
c. Sugarcane	-do-	212.00	
d. Cotton	(Million bales of 170 kgs. each)	10.00	
e. Jute & Mesta	(Million bales of 180 kgs. each)	9.50	

A State-wise break up of foodgrains and oilseed production estimates during 1980-90 are in table 4 and 5.

Table 1

Long-Term, Medium-Term and Short-Term trends in the Growth of Area Procution and Yield of Principal Crops-All India.

S. No.	Name of the Crop	1949/50 to 1986-87	1949/50 to 1964/65	1967/68 to 1986/87	1980/81(TE) to 1987/88(TE)	1985/86 1984/85	1986/87 1985/86	1987/88 1986/87	1988/89 1987/88	Annual Average 1988/89 1984/85
1	2	3	4	5	6	7	8	9	10	11
1	Rice	A 0.88	1.33	0 63	0.07	-0 05	-0 08	-6 92		
		P 2.52	3 49	2 54	2.70	9,41	-5 34	-6.81	22 28	4 88
		Y 1 61	2 13	1.93	2 70	9.46	-4.50	0 14		
2	Wheat	A 2 67	2 68	2.23	0.30	-2 41	-0.81	-2 27		
		P 5 95	3 99	5.48	4.00	6.77	-3.31	1 74	19 73	6.23
		Y 3 20	1.27	3 17	3.60	9.36	-2 29	4 12		
3	Total Coarse cereals	A 0.76	0.90	0.28	2 30	-0 66	0 07	-8 85		
		P 2 98	2.28	2.90	1.30	-15.94	0.52	-3 67	23.84	1 19
		Y 1 86	1.29	2.19	-0.10	-16.48	0.45	5.62		
4	Total Pulses	A 0.32	1 90	0 44	0.2	7.39	-5.45	-6 89		
		P 0 34	1 39	0.68	2.0	11 69	-12 15	-5 69	35.87	7.43
		Y 0.19	-0.22	0.32	1.8	7 90	-7 13	1 16		
5.	Total Foodgrains	A 0 67	1 41	0 31	-0 30	1 06	-1.45	-6.67		
		P 2.70	2.93	2.76	2 20	3 37	-4 23	-3 48	22.82	4.62
		Y 1 76	1 43	2 32	2.50	2 26	-2 81	3 38		
6.	Total Oilseeds	A 0 91	2 69	0 15	1.40	0 51	-1.74	7 37		
		P 1.89	3 11	1.53	2.90	-16 33	5 73	9.83	29.24	7.16
		Y 0.71	0.20	1.20	1 40	-16.81	7 58	2.31		
7.	Sugarcane	A 1.86	3.27	1.49	1.39	-3 51	7 21	8 78		
		P 2.97	4.26	2.63	3.51	0.19	6.93	5.71	6 75	4.89
		Y 1 15	1 12	1.13	2.05	3 84	-0 26	-0 98		
8.	Jute & Mesta	A 0.95	3.86	0.89	-101	32.33	-23 03	-10.09		
		P 1.62	4.29	2.57	1.98	62.40	-31 76	-21.37	13 57	5.71
		Y 0.71	0.73	1.40	2.84	22.70	-5.18	-12 51		
9	Cotton	A 0.36	2.47	-0.12	-1.93	2.04	-6.06	-6.87		
		P 2.35	4.58	2.11	4.30	2.59	-19.62	-6.85	49.30	6.35
		Y 1 99	2.04	2.22	1.20	0.51	-14.29			

Table 2

Targets and Achievements of Principal Crops during the 7th Plan

S.No. Crop	1st Year 1985-86		2nd Year 1986-87		3rd Year 1987-88		4th Year 1988-89	
	Tar.	Ach.	Tar.	Ach.	Tar.	Ach.	Tar.	Ach.
1 Rice	63.50	63 82	65.00	60.56	64-65	56.43	66	69.00
2 Wheat	49.20	47.05	49.00	44.32	50-51	45.10	52	54.00
3 Coarse Cereals	33.00	26 20	32 00	26.83	32-32.5	25.84	33	32.00
4 Pulses	13.50	13.36	14.00	11.71	14-14.5	11.04	13	15.00
5. Foodgrains	138.20	150 43	160.00	143.42	160-163	138 41	168	170.00
6 Oilseeds	13.60	10.83	14 80	11.27	14-15	12.38	15.66	16.00
7. Sugarcane	191 00	170.65	185-190	186.09	180-185	196 72	195.00	210.00
8 Cotton (million bales)	8.5-8 6	8.73	8 60	6.91	8.8	6.43	9.78	9.8
9 Jute & Mesta (Million bales)	8.65	12 65	8 50	8 62	8.8	6 78	9.20	7.7

Table 3

Progress of Area under HYV during the Seventh Plan period

(Million hectares)

Crop	Seventh Plan Target	1985-86 First year		1986-87 Second Year		1987-88 Third year		1988-89 IV th Yr.		1989-90 Vth Yr
1.	2	3.	4.	5	6	7	8	9	10.	11.
1 Rice	32 00	26 50	23 40 (88 3%)	25.80	24.06 (93.2%)	26 40	20 79 (78.7%)	29 00	2700	29 0
2. Wheat	22 00	19 50	19 02 (97.5%)	20 67	19 19 (92 8%)	21 14	19 65 (92 9%)	22.00	21 00	21 0
3 Maize	3 00	2 20	1 79 (81.3%)	2.35	2 18 (92.7%)	2.40	1 94 (80 8%)	2 50	2 00	2.50
4 Jowar	6.50	5.30	6.08 (114 7%)	5 85	5 50 (94 0%)	6.45	5.43 (84.1%)	6.00	6.50	6.50
5 Bajra	6.50	5 30	4.98 (95.9%)	5.94	5 27 (88 7%)	5 91	3.47 (58 7%)	5 50	6.00	6 00
Total	70.00	58 80	55.27 (93.9%)	60.61	56 20 (92 7%)	62.30	51.28 (82.3%)	65 00	62 50	65.00

In order to achieve this level of production, the following steps are suggested

(a) It is important that each State should draw up a detailed action plan of each district after studying the natural and physical resources available in the year and to take decision regarding the implementation of the plan in those areas.

(b) Modern technology, in a sense is nothing but a better and efficient management of seed-fertiliser-technology. On an area bases each aspect is to be delineated, implemented and monitored.

(c) Certain vital programmes/schemes like SRPP, SFPP, NPDP, SMFP, NWDP should be implemented in right earnest so as to boost agriculture production and productivity.

(d) Price support operations need be intensified by encouraging the activities of Food Corporation of India, NAFED, State Marketing Corporations, Jute Corporation of India and Cotton Corporation of India, etc.

(e) It is also to be ensured that necessary credit to the farmers is made available in all the States so that the farmers can invest on purchasing the various inputs required by them.

Finally there is a need to see that the monitoring and evaluation system penetrates right down to the lowest level and is well organised and bottlenecks if any should be removed on priority basis. The accountability of each of extension worker should be based on the final outcome in achieving the desired results.

At the national level each vital programme should be thoroughly discussed after every 3 years and dicisions for thier implementation should be taken on the spot. The mass media particularly Doordarshan, should be utilised for the dissemination of well-proven technology. A detailed list of actions

Table 4

State-wise break of Estimates of Foodgrains Production in 1989-90

(Lakh tonnes)

S.No.	State/U.T.	Rice	Wheat	Coarse Cereals	Pulses	Total Food-grains
1	Andhra Pradesh	93.00	0 10	25.00	6.50	124 80
2	Arunachal Pradesh	1.40	0.07	0.60	0.05	2.12
3.	Assam	32.00	1 71	0 30	0.70	34 71
4	Bihar	66 00	43.08	12.00	9.50	130.58
5.	Goa	2.00	—	0 10	0 05	2.15
6.	Gujarat	9.00	17 70	25.00	6.50	58.20
7	Haryana	19 00	54 00	7 15	6.00	86.15
8.	Himachal Pradesh	1.40	4 50	6 30	0.20	12 40
9	Jammu and Kashmir	6.20	3 00	5 50	0 30	15 00
10.	Karnataka	25 00	2 11	46 00	6.50	79.61
11	Kerala	13.00	—	0 05	0.30	13 35
12.	Madhya Pradesh	56.00	51.00	35.60	28.50	171.10
13	Maharashtra	26.50	8 00	64 00	13.50	112 00
14.	Manipur	4.00	0 10	0 20	0 12	4.42
15	Meghalaya	1 25	0 06	0·25	0.03	1 59
16	Mizoram	0 55	—	0 10	0.02	0 67
17	Nagaland	1 30	–	0 15	0 03	1 48
18	Orissa	56.00	0 82	5 50	11 50	73.82
19	Punjab	59 50	112 00	6 50	2 00	180 00
20	Rajasthan	2 00	44 10	38.00	19 00	103.10
21	Sikkim	0 20	0 18	0.60	0 10	1.08
22	Tamil Nadu	60 00	-	17 00	3 50	80,50
23	Tripura	4 50	0.05	—	0 04	4.59
24	Uttar Pradesh	93 05	188.00	40.00	30 00	351 05
25	West Bengal	91 00	8 00	1 35	2 50	102.85
26	A & N Island	0 28	–	—	0 01	0.29
27	D & N Haveli	0 20	—	0 05	0 03	0 28
28	Daman & Diu	0 02		0 05		0 07
29	Delhi	0 10	1 42	0 10	—	1 62
30	Pondicharry	0 65	-	0 05	0 02	0 72
	Total	725 10	540 00	337 50	147 50	1750 10

Table 5

State-wise break-up of estimates of production of Commercial Crops for 1989-90

(Lakh Tonnes/Bales)

S.No.	State/U T	Oilseeds	Sugarcane	Cotton	Jute & Mesta
1	2	3	4	5	6
1	Andhra Pradesh	21 0-22 0	110 0	10 00	9 40
2	Assam	2 0-2 5	25 0	0 02	10 50
3	Bihar	2 5-3.0	80 0		12 40
4	Gujarat	23 0-24 0	80 0	20.0	
5	Haryana	3 8-3 8	70 0	9 50	
6	Karnataka	17 0-18 0	154 0	8 00	1 00
7	Kerala	—	5 0	0 12	–
8	Madhya Pradesh	17 5-17 5	23 0	3 60	0.25
9	Maharashtra	14.5-15 5	270 0	18 00	1 50
10	Orissa	9 5-9 5	40 0	0 10	7.70
11	Punjab	3 3-3 3	65 0	20 00	-
12	Rajasthan	13 0-13 0	15 0	7 34	-
13	Tamil Nadu	13.0-15 0	220.0	1 50	
14.	Uttar Pradesh	14 0-16 0	950 0	0 50	1 05
15	West Bengal	5 0-6 0	7 0	—	49 15
16	Others	0 9-0 9	6 0	1 32	2 05
	National Target	160.0-170 0	2120 0	100 00	95 00

* Lakh Bales of 170 kgs each ** Lakh Bales of 180 kgs each

each season/month should be worked out and ir implementation should be watched by senior ocials of the Department.

If the action is taken on the above lines, the production estimates mentioned above for 1989-90 would not be difficult □□□

Technology mission highlights

Subhra Chakravarty & Rekha Sharma

In India, a recent experiment involving application of Science & Technology to a number of societal missions in the fields of literacy, drinking water, immunization, oil seeds, telecommunication, dairy development etc. have been taken up for achieving individual sector targets without lagging in the implementation of the programme laid down for the 7th five year plan. In this paper the authors analyse the qualitative and quantitative aspects of the various programmes undertaken by the societal missions vis-a-vis the success recorded in each such sector.

IN DEVELOPING COUNTRIES LARGE amount of resource is spent towards welfare and development of the weaker section of people, who are not in a position to derive direct benefits from the economic activities of the country. In a situation of growing resources gap, it is important to design the programme of development in such a manner so as to reach the target group of beneficiaries without lapses in between. With this end in view, a number of societal missions were formulated during the current plan period with time targetted objective based on results attainable through application of technology.

The Technology Missions were launched to give a new focus to development in which we shift from directing people to empowering people. The concept was to replicate our success stories from other areas to meet basic needs. The Mission apporach was required to create a sense of urgency and to provide management focus, increase communication, organise information, improve centre state coordination and substantially improve the participation of the people in the various developmental programmes.

LITERACY	Impart functional literacy to 80 million illiterate persons in 15-35 age agroup by 1995. 30 million by 1990 and another 40 million by 1995.
DRINKING WATER	Supply 40 litres per capita per day in all areas for human and 30 litre per capita per day in desert areas for cattle, by 1990.
IMMUNIZATION	Reduce mortality due to Diphtheria Pertussis, Tetanus, Poliomyelitis, Tuberculosis, Measles among children and pregnant women Achieve self sufficiency in vaccine production (BCG, DPT, TT)
OIL SEEDS	Production of 16 to 18 million tonnes oil seeds per year by 1990 26 million tonnes oil seeds and 8 million tonnes oil by 2000
TELECOMMUNICATION	To bring up the call completion rate to 98% for local calls, 94% for junction calls and 80% for STD calls, induce the fault rate to 10 per 100 station both for telephones and telexes, increase the efficiency of normal truth call to 80%. by 1990. Improve the Directory equiry and billing services.
DAIRY DEVELOPMENT	150,000 village cooperative in 275 districts; Increase milk production to 700 lakh metric tons and per capita availability to 196 gms per day. Productivity 640 litre per cow and 1020 litre per buffalo per annum by 1995.

Although the National Societal Missions popularly called the Technology Mission, cover widely diverse fields namely drinking water, Immunization, adult literacy, oilseeds, dairy development and telecommunications, they are identifiable by common features namely mutual linkages pointing to an integrated strategy, district level planning and decentralisation of authority and responsibility, active involvement of

grass roots level organisations including NGO's careful use of simple and sophisticated technology and basic theme of motivating and mobilizing all the partners involved, including the planners and benefactors. In words of one partner of the Technology Missions, the technology missions are important management innovation in the Government whereby many agencies have been able to come together and work in matrix type organisations without losing their individual autonomy and characterstic. A new culture of cooperation and understanding each others problems and to pool the resources towards the common objective have helped in reduction of the implementation gap.

Literacy mission

Till Sixth Plan, education was taken to be a social service rather than an input in the development programme of the country. A change in emphasis started during sixth plan period, wherein human resource development has been considered to be pivotal in the social and economic development of the country. A new National Education Policy was approved by the parliament in May 1986, which envisages universalisation of primary education and adult literacy by 1990.

According to the 1981 census, the literacy rate increased from 16.67% in 1951 to 36.23% in 1981. Of the total 412 districts in the country, 243 had a literacy level below national average, inclusive of the 193 districts where the female literacy rate is below 20% (1981)

Inspite of the apparent increase there is a significant increase in actual number of illiterate persons over this period. The plan expenditure almost doubled from Rs. 2524 Crores in Sixth Plan to Rs. 6383 Crore in the Seventh Plan. However, the literacy rate among male is around 47% and among female is 25% and 16% among scheduled caste and tribes.

To accelerate the coverage of this gap, the literacy Mission was created integrating few of the existing programme of state and central level and strengthening them with suitable technological input and services input of voluntary teachers from the public, teachers and students at large. The programme includes:

Participation of a million student volunteers apart from NCC, National Service Scheme, Nehru Yuvak Kendras, Bharat Scouts and Guides. The student volunteers will be supplied with free Literacy kit and 10000 youth activists will be trained.

Setting up of "Jana Shiksha Nilayam" at the rate of one Nilayam for four or five villages with a population of about 5000 for continuing education, has been taken up in addition to strengthening the extension facilities at employers, trade union, universities, colleges and poly techniques.

Modernisation in teaching will be introduced through improved aids, such as new type slates, globes, maps, models radios, cassettes slides, film strips, TV etc.

Adult Education Centres will be set up at village level under supervision of Jana Shiksha Nilayam.

Techno pedagogic input in literacy will be provided in 40 selected districts in the first place.

Shramik Vidya Peeth to be set up to provide literacy to working class. Upto Dec. 1988 they covered 90,797 beneficiaries in 1987-88.

300 voluntary agencies in 1987-88 and 1000 in 1989-90 will be identified for imparting 3 weeks training each year to 50-75 persons, in addition to universities, trade unions, Nehru Yuvak Kendras and social and labour research institutes.

Village Education Committee and jathas or cultural caravan; students, teachers and artists will tour places making people aware of the improtance of literacy and their own rights.

Drinking water mission

The Technology Mission on Drinking Water in Villages and Related Water Management has the following objectives:

- Cover all problem villages by 1990
- Supply of potable water at 40 litres per capita/day
- Supply 70 litres per capita/day in desert areas.
- – 40 litres for human beings
- – 30 litres for cattle
- Evolve cost effective technology mix to achieve these objectives.
- Take conservation measures for sustained supply of water

Of the 5 75 lakh villages in the country about 1.62 lakh villages have been identified. A problem village has been defined as:

- No source of water
- Water source at more than
  - – 1 6 km distance
  - – 15 meters depth
  - – 100 meters elevation difference
- Biological contamination
- Chemical contamination

The Technology Mission on Drinking Water aims at a scientific study and evolving cost-effective solutions by mobilising and pooling the resources of various agencies viz Space, Atomic Energy, CSIR Central Ground Water Board (CGWD), etc.

Research and development has been carried out in vitally important areas such as finding sources of water, treatment of water and identifying the water-related health hazards. Applications of such findings have not percolated down to the rural areas. It is being increasingly realised that integrated application of science and technology is necessary for solution to

the water-related problems in rural India, on a long term basis.

The strategies for acomplishment of the total coverage adopted by the Mission are as follows:

- For visible results focus on submissions (country wide) Eradication of Guinea worm-9920 villages by 1989.
  Control of Fluorosis-8700 villages by 1988.
  Control of Brackishness-17,500 villages by 1990.
  Removal of Excess Iron-2900 villages by 1988.
  To focus on 50 Projects Areas (Mini Missions).
  To evolve new cost effective S&T techniques
  To replicate and simultaneously apply these techniques for the rest of problem villages.
- Integrated approach for water conservation

Immunization mission

In the middle of Seventh Plan, the general death rate was 1% and life expectancy at birth was 55 years The infant mortality is controlled at less than 10% In rural areas there are 14,145 primary health centres and 98,987 subcentres The 20 point programme lays speical emphasis on improving the health status of the people According to the programme, it is proposed to promote family planning on a voluntary basis as a people's movement, substantially augment universal primary health facilities and control leprosy, tuberclosis and blindness, accelerate programme of welfare for women, and childcen and nutrition programme for pregnant women, nursing mothers and children in tribal, hilly and backward areas The emphasis is on preventive and promotive aspects

Immunization is a low cost efficient technology for child survival and prevention of disabilities The Expanded Programme on immunization was started in 1978 with the objective of reducing morbidity mortality and disabilities due to Diptheria, Hooping cough, Tetanus and Tuberculosis by making free vaccination services easily available to all eligible children and expectant mothers Polio and Typhoid vaccination were included in the programme in 1979 80, Tetanus Toido (school Children) in 1980-81, BCG was brought under the purview of EPI in 1981-82 and Measles vaccine was initiated in 1985-86

Universal immunization Programme was started in the country in 1985-86 with the objective to immunise 85 per cent of eligible infants against six preventable disease, and to cover 100% pregnant women by 1990 The total number of infants were 822 lakh and women 925 lakh. In 1985-86, 30 selected districts were taken up,62 were added in 86-87 and 90 in 87-88, 120 in 88-89 and the remaining in 89-90

This programme was further strengthened by setting up of Immunization Mission in 1986, which had specific programme for vaccination for specified disease and indigenous production of vaccines as well as their preservation by cold chain equipment and intensive health education and training for lasting impact.

Oilseeds mission

The Technology Mission on Oilseeds launched in May 1986, has the immediate objective of producing 160 to 180 lakh tonnes of oilseeds and between 40 to 50 lakh tonnes of edible oil by 1990. In the short and medium term, the approach is to improve use of available technologies and experiment with high-yielding imported seeds. In the long term, the objective is to develop indigenous seeds, improve their yields, decrease crop duration and increase oil content.

India imported 18 lakh tonnes of edible oil in 1987-88. In 1988-89 the imports are expected to be of 8 lakh tonnes only. The production of oil seeds within the country during 2 years are given in table I.

TABLE I

Production of Oilseeds: 1987-88 & 1988-89

(Lakh tonnes)

Oilseeds	*1987-88 (Official estimates)*	*1988-89 (CMIE estimates)*	*Change*
Groundnut	56 7	74 0	30 5
Rapessed &	33 7	36 0	6 8
mustard	9 8	13 5	37 8
Soyabean			
Sesamum	5 6	6 5	16 1
Sunflower	6 1	6.5	6 6
safflower	4 5	6 0	33 0
Niger seed	1 8	2 0	11 1
Linseed	3 7	5 5	48 6
Castor seed	1 8	4 5	150 0
Total nine oilseeds	123 7	154.5	24 9

The Mission has developed a new integrated policy on oilseeds for accelerating the move towards self-reliance by boosting domestic production of oilseeds through improved technology and incentive prices to farmers, with suitable subsidy if needed for holding price line within specified limits

(a) Support to farmers with technology inputs to raise the output

(b) Review of the prices of edible oils distributed through the public distribution system

(c) Prescription of a price band for range of variation.

(d) Procurement of domestically produced oilseeds and edible oils by the designated authority namely National dairy Development Board for building a buffer stock.

(e) Constitution of empowered comittee headed by the Cabinet Secreatry to supervise the implementation of the policy.

Telecommunication mission

The first telephone line in India was opened in 1881 and telegraph line in 1851. At the time of

independence there were only 321 telephone exchanges and 82000 working connections. By 1987, this was increased to above 12000 exchanges and 40 lakh lines (35 lakh working connections). This covers 216 cities, 3029 towns and 8877 villages including 44,248 public call offices. There are 36000 long distance public telephone and telegraph offices.

The Telecommunication Mission was established in 1986 with the following broad objective :—

- improve quality of service through staff commitment
- selected use of new technology in net work upgradation and special inputs in selected areas of net work to achieve net work customers satisfaction.
- improvement in the delivery of telegrams within 12 hrs from present level of 30% to 99% by replacement of mechanical teleprinters with electronic ones.
- Reduction in fault rate of telephones from present level of 35% to 20% by replacing old telephone instruments drop wires, fault prone overhead lines and cables by introduction of computerised subscribers line testing.
- 6,00,000 PCO by 2000 A.D.
- Provide Telex Facility on demand.
- Improve call success rate from 91% to 99% for local calls .From 70% to 98% for junction calls. From 20% to 90% for STD calls through the induction of PCM Systems and optical fibres in junction net work, induction of digital microwave and digital TAXS in addition to commissioning of computerised trunk exchanges in big cities and by induction of SFK system for manual trunk exchanges.

Progress level

In an attempt to quantify the outcome of the Mission Approach, achievements of previous plans vis-a-vis the current programme have been summarised in Table II in Annexure 2 However, it needs a very detailed survey to establish the fact whether an increasing number of the members of the *target group are feeling communicated or participated* in the long run. But presently it is worth-while to take a short term evaluation of the organised methodology for continued impetus and expectations therefrom.

In the year 1987 the country faced a calamatious drought, but a positive growth rate of 3.6% was maintained. Oilseeds production reached a new high along with record harvest of kharif crop and also good rabi crop and substantial reduction in oil import was achieved as compared to the prevetous years by 50%., 1986-87 production was 11 million tonnes with 60% rainfall and that in 1987-88,25 million tonnes with 40% rainfall. The production is expected to reach 155 lakh tonnes in 1988-89. This is possible by demonstration of improved technology along with coordinated input of fertilizers, pesticides, seeds, irrigation facilities etc. as well as economic support prices for the farmer. Under the Mission Programme 40 new varieties of groundnut, mustard and sunflower have been released with average yields thrice as high as that of present breeds. New policy concensus has been derived for production, distribution, import *and pricing to balance the interests of concerned* people namely, farmer, miller, consumer, as well as the economy as a whole.

The Water Mission has already provided 65000 problem villages with at least one source of water. 32000 water harvesting structures have been created and new sources have been found in 3985 villages and hydrogeo-morphological maps have been completed for 23 states/U.T's. The number of guineaworm affected villages has been reduced from about 8000 to 3111. A number of technology for improving water quality to potable level have been demonstrated in over 30 villages, which included removal of dissolved salts, flourides iron etc. Elaborate steps have been taken to ensure testing of quality of water at source including training of local persons. More than 5000 people have been trained at different levels, by *various national institutions in order to make large* number of functionaries conversant with approriate scientific activity Standardisation of existing technologies and equipments have been taken up for making them cost effective and widely available to common people.

The Immunisation Mission looks forward to cover whole of the country by vaccination by the end of 7th Plan as well as to take necessary measures for production, preservation and testing of vaccines indigenously in a large number of centres throughtout the country. As such the backlog is expected *to be cleared and modernised facilities be established* for imporved health programme for the coming years. Indigenous production of few vaccines and cold chain equipments will emerage as a part of the Mission activities

In the field of telecommunication, rapid strides have been made both in rural and urban sectors. Eleven digital exchanges and 2000 long distance public telephones have been connected by STD and 3300 public telephones have been installed in urban areas. 70% telegrams are being delivered within 12 hours and trunk call completion rates have increased from *70% to 84%. Other measures for improvement in* equipments and services are under implementation

In spreading of literacy, the contribution of student volunteers and other voluntary agencies has been greatly increased since the commencement of the Literacy Mission. Improved prototypes of black boards, slates, dustless chalks and lanterns have been developed and field tested.

Table II

Comparative statement of mission progress/achievement and ongoing rural development programme

Programme 1	*1985-86* 2	*Coverage 1986-87* 3	*1987-88* 4	*1988-89* 5	*Use of New/existing Technology* 6	*Remark* 7
ARWSP	50,000 villages 250 lakh (Population)	....	90903 villages	......		
DRINKING WATER MISSION		500 lakh (Population) 90,000 villages	800 lakh (Population) 1,05,000 villages	251 lakh (Population) 52,000 villages	32000 Rain Water Harvesting structures created	For first time ear-marking of funds for water conservation under DPAP.
					Guineaworm affected villages reduced from 8000 odd to 3111	Ground Water potential map now available for 46 districts important for source finding.
					100 Desalination plants to be set up 1988-89. (7 Mobile desalination plants supplied to states).	85 Water Quality testing laboratories are to be set up at district level
					130-Defluoridation plants being set up in 1988-89.	200 Solar pumping System in villages
					3000-Iron Removal plants being set up.	For first time quality standards for tube wells formulated & prescribed
						Step-well conversion into sanitary wells
OIL SEED PRODUCTION						
Ground nut	1762 4	2900 qtns				
Soyabean	852 8	1535 qtns				
Rape-seed Mustard	36.4	35 qtns				
Sun flower	35	35 qtns				
Saffl-	21.8	40 qtns				
OIL SEEDS MISSION		110 lakh tonnes	123 lakh tonnes	155 lakh tonnes	New Technology for sun flower processing demonstrated 70 new varieties for ground nut, mustard and sunflower released for first time with average yield 3 times higher.	

1	2	3	4	5	6	7
					Modern expeller prototype demonstrated. 5000 expellers to be modernised. In-expensive rice bran stabiliser demonstrated. Polypack oil pouches introduced	
ADULT EDUCATION PROGRAMME	6.3 Mill	8.6 Mill	9.1 Mill	10 Mill (target)		
LITERACY MISSION			80 Mill		Improved prototypes of black-board, slates, dustless chalks and lanterns have been developed and field tested.	Ex service men have been drawn into Mission from 25 Districts. Mass mobilisation of students volunteers was done in summer of 1988, 6 lakh students to reach out to 10 lakh illiterates. Action plan for 1 lakh illiterate Prison inmates finalised. Nehru Yuvak Kendras involved in 27 Districts
ONGOING TELECOMMUNICATION PROGRAMME	44,000 (local calls) 1500 Trunk Calls 700 STD (Target) Commulative					
TELECOMMUNICATION MISSION				2,000 long distances public telephones installed in rural areas 3300 public telephones installed in urban areas. Public telephones to be 61,000 for local calls.	11 Rural Exchanges Prototypes for reliible public telephones are on trial; electronic key board to replace the conventional Morse Code System for telegrammes is being used for trials.	7 out of 10 telegrammes now delivered within 12 hours and efficiency of manual trunks has increased from 70 to 84 percent

1	2	3	4	5	6	7
			35,000 for Trunk Calls 7,000 for STD Calls			
CALL SUCCESS						
STD		20	45	70		
Junction Call		70	72	80		
Local Calls		90	95	98		
PRIMARY AND COMMUNITY HEALTH CENTRES	1829	1747	328	3151 (Target)		
	111	343	40	312 (Target)		
IMMUNISATION MISSION	30 Districts	62 Districts	90 Districts	120 Districts	Plans for indigenous production of polio, measles Vaccine by 1991 finalised	
					Indigenisation of cold chain equipment initiated	40 Districts to use Indian made-equipment in 1988-89.
Pregnant Women	3 Mill (Target)	12 Mill (Target)	15 Mill (Target)	20 Mill (Target)	Testing facilities to be promoted	11 Vaccine testing Centre to be created by mid 89 At present only 2 are available (Haffkine & Pasteurs) Modernisation of above two started
Children	2 Mill (Target)	8 Mill (Target)	12 Mill (Target)	15 Mill (Target)		

The key lessons already derived from the Mission activities appear to be as follows:

(a) Mission concept should be used selectively and ongoing programmes should not be merely redesignated as Technology Mission.

(b) Priority should be given to specific activities in specific regions, such as desalination of water in brackish water zone and intervention of technology should be clearly explicit within its own limits.

(c) Concerned agencies and voluntary groups should be involved from the very begining and all their resources be pooled and integrated for common aims.

(d) The action points and policy should be clearly specified in written document for total understanding among all concerned.

(e) Standardisation, monitoring and evaluation should be taken up as essential tasks rather than as subsidiary system. The ultimate and intermediate goals should be set up fo monitoring.

(f) It is necessary to deemphasise hierarchy an emphasise egaliterianism Teamwork an integration will have to be ensured t eliminate wastage and duplication i delivery of services.

(g) The target group should be made aware tha the Missions are interested in eleminatin their problems, so that they come forward t take over from the functional authorities th ownership and responsibility for maintenanc and replication of the facilities created o assembled by the Mission.

(h) Lastly, the spirit should continue an transform the general way of work in the lon run.

The rural women who have accepted the role c second fiddle in all walks of life, may now find the own role in nation building after achieving the basi needs such as health, drinking water and literacy.

Cancer : Causes and remedies

Dr. (Mrs) C.D. Irene

Cancer, says the author, has a long lived history. What is cancer? What causes this dreaded disease? What are the available preventive/curative measures. The author attempts answers to these questions through this article.

CANCER AS A BIOLOGICAL PHENOMENON has a long lived history Let us try to unravel the Myths and Mysteries woven around this dreadful disease. The afflictions were known to the ancient Egyptians. The sinth papyrus uncovered in 1862, written apparently in the second millenium BC described medical conditions consonant with cancer. The word cancer is derived from the Greek word 'Kar Kinos' word that was originally applied to corroding ulcerative diseases on the visible surfaces of the body. An early functional pathological definition was given in the Oxford dictionary for cancer as a condition that tends to spread independently to reproduce itself and to return after removal, and eats away or corrodes the part in which it is situated. I suppose this is the nearest correct definition that can be given to cancer in the Layman's terminology.

What is cancer

All of us are aware that our human body or for that matter any living creature is made up of a number of cells each of them having their own function to perform. From an infant we grow to our present size by multiplication and increase in size of these cells. Of course in the normal course of events these cells grow and multiply according to certain codes so that the body as a whole grows up in a harmonious manner. Not one leg longer than the other or one ear larger than the other. In other words our cells multiply according to certain order to fulfill the purpose of growth. But in cancer a few cells play truant-they become rebellious-they just grow haphazardly and to fulfill no particular purpose. They just grow, pushing away the normal meek cells, taking away their place, thier nutrition and perhaps hindering their function. Now I suppose we can define cancer better. In cancer there is uncontrolled, disorderly, purposeless growth of cells Actually at this stage such a condition is known as tumor. Now we further sub-divide tumor into benign-harmless-that is it just grows to a certain size and then stops growing. It does not invade the neighbouring tissues, does not get dislodged and occupy other parts of the body Many a time you must have seen, many an old revered man having a big lump on his back or nape of the neck, sitting hamlessly and if you ask him avout it he will say, "Oh ! Son, it has been there from the time I can remember, Why should a toothless old man like me get that harmelss thing removed ?" So, that is a benign tumor. Usually these are from the fat or skin and are harmless. But things are different in the case of a Malignant tumor-in other words cancer-the other meaning of cancer from the original word 'Kanker' is the crab. Because like a crab it claws its way around More often than not, by the time the danger signals are apparent it would have spread to the neighburing tissues, entered the blood stream and the malignant cells get deposited in vital parts of the body like brain, heart lungs, liver and kidney. Now you understand why the word cancer spells death By the time you are aware of it, it has gone beyond your control.

Causes

Do we know what causes cancer. In other words what puts the switch on, or what triggers off the normal cells to suddenly become rebellious, and grow and multiply as they please and invade forbidden territories and occupy places other than their own. Well—it is like the blind men's description

of the elephant. Perhaps a nobel prize is within the reach of that man/woman who can pin point the cause of cancer and prove it cause of cancer and prove it beyond doubt; Various theories have been proposed as being at least patially responsible for the initiation of cancer. Let us take a peep into them. Heredity Environment, habits, infection have all been made responsible and with evidence too.

Heridity

There are certain cancers which occur in families for generations. One of them is cancer of Stomach. I think all of you know that the great Nepolean died of stomach cancer in the island of St. Helena. His father Charles Bonaparte, grand father Joseph Bonaparte, brother Leucive Bonaparte and his sisters Pauline, Caroline and Eliza died of stomach cancer Then there are certain cancers of the skin, nerves and bones that are seen in families. Similarly there are certain cancers of the large intestine and endocrinine glands that are hereditary.

Environmental

Now we go on to the environmental factors that may lead to cancer. The list is too long, I will confine myself to the more important of the list. The food we eat, the water we drink the air we breathe the community we live in, the warm sunshine we enjoy, the plaçe where we work, the people we love, the genes in our cells can all give us cancer. Surprising it sounds Eh ! But unfortunately true, partially, atleast.

Habits

Alright let us take our diet–People from Kerala and perhaps Andhrapradesh are very fond of chillies. I do not know about Andhra Pradesh. But in Kerala stomach Cancer is singly rampant. Is it because we carry the genes for stomach–cancer I do not know very colourful food is very appetising—but dangerous and so beware While chillies are our problem, people in the western countries eat too refined food with too much fat. Both are incriminated in cancer of the large intestine.

The air we breathe, especially in the urban areas, with all the soot from factories, is dangerous to our lungs. Sir Percival Pott, the celebrated British surgeon, discovered as early as in 1775, that soot does play a part in the birth of cancer. He observed scrotal cancer in chimney sweeps and mule spinners. People who work in or near asbestoss factories are prone to Lung cancer. I think everyone is aware of the effect of radiation on cancer. Radioactive fallouts as we say is present in the atmosphere and depending on the dosage to which one is exposed, one can get a variety of cancers including Blood cancer, known as Leukemia. We all know that the survivors of Hiroshima and Nagasakki developed some sort of cancer or the other including leukemia years after the bombing. Solar radiation, can act as a cancer producing agent. People like us living in tropical countries are prone to a variety of skin cancers on the exposed parts of the body.

Now let us see how these so called harmless habits of ours can lead us slowly but surely into the jaws of death. Cigarette smoking as you all know is injurious to health. That is the statutory warning given on every pack. In addition to the trouble it gives to stomach or heart, any man or woman who has been smoking over 20 cigarattes per day for the past 20 years, is a sure candidate for lung cancer. May be somebody might tell me how a pious old women who has not seen or heard of cigarette or even beedi died the other day of lung cancer; Whereas that admant octogenerian who walks strainght as a stick smoking like a chimney day in and out is fit as a fiddle Yes it is here that we do admit defeat. We know cigarette smoking does predispose lung cancer; Yet so many chain smokers live happily. Thus there is no uniformity in the causes of cancer. That is why I said in the begining itself that still we are groping in the dark to know whether cancer is produced by a single agent or is due to a combination of factors including heredity. While cigarette smoking causes lung cancer. Cigar or pipe smoking causes cancer of the lips. So smokers beware. Now recent research has proved that while the risk for the smoker is 20% that for his family who live under the mantle of his smoke is 10%

All right, give up smoking and take to alcohol you are jumping from the frying pan straight into the fire In other words, you are really between the devil and deep sea. Alcohol in addition to its ill effects on the stomach, liver, brain and heart can lead on to cancer of the liver.

Infection

Cancer can be produced by constant irritation or friction to a particular part. The moment we see first signs of cancer in the tongue or mouth we ask the patient to remove the teeth on that side. This is met with vociferous protests. They literally say like this "That doctor is mad, I think. I have one small white thing on my tongue and that silly doctor wants to knock off my teeth. I could have done the samething for him." So saying he goes to a quack and comes back later with an irrepairable cancer. Pan Chewing is a universal phenomenon in India Pan chewing leads to cancer of tongue and mouth in a variety of ways First of all the various ingredients of pan have such irritating substance that can damage the delicate mucous membrane of the mouth leading to cancer Pan chewing further damages the teeth and the damaged teeth goes on irritating the tougue or the innerlining of the mouth leading to cancer. Tobacco is another potential, danger.

Constant irritation by tight fitting clothes can lead to cancer. It seems in Maharashtra the males tie their dhoti very tight over the waist in a knotted fashion and people of Maharashtra are more prone to cancer of skin in the waist area, more than the others. It is explained by the fact that due to constant irritation and accumulation of dirt, pressure sores develop which over the years turn malignant.

The Kashmiris carry an earthern pot inside a basket called Khangri. Now this Khangri contains live coal and is carrired very near the abdomen and they develop cancer of the skin of the abdomen- This is due to constant irritation by the repeated burns inflicted on that area. People of Andhra Pradesh, I am told smoke 'Chuta'—whatever that smoking stuff, they put the lighted part inside the mouth. Why have they to suffer form such self inflicted injuries. The end result is the cancer of the hard palate.

There is a theory that certain infections can lead to cancer. Of course any infection of any part of the body that has been there for a long time can cause cancer. In this connection I have to tell you about Burkitts tumor. Dr. Burkitf observed that one type of cancer was observed predominantly in children of Uganda and nowhere else. In Uganda where this tumor occurred, Malaria was rampant, and that area was infested with mosquitoes. So he proposed a theory or rather a speculation. Does Malaria or some other infective agent carried by the mosquitoes have any part to play in the production of this tumor. We are yet to find an answer because eventhough originally Burkitt observed this tumor in Uganda, it occours in other parts of world including India. to my knowledge about 30 cases have been reported from India of which the 4th case was reported from Delhi. We had sent the material to Burkitt and he confirmed it. It was in th small intestine of a female child aged 4 years

Types of cancer

I think I have confused you all enough regarding the causes of cancer and still we are where we were, still in the dark. So let us go to the next intriguing subject namely the age, sex distribution and types of cancer and the organs affected by cancer. To start with, I have to say that here also we have drawn blank. Like Death the leveller, Cancer also is a leveller. Cancer has no respect, sex, caste, colour, creed and nationalitity So all are equal to the claws of cancer, of course there are certain cancers which are more prevalent to a particular age group and to a particular sex. For example, there is one type of malignant tumor of the eye occuring only in children below the age of three. There is one type of leukemia which occurs in the age group five to fifteen. There is one very malignant tumor of the bone occuring predominantly in the age group 10-20. In general, cancer of the lung, gastrointestinal tract, and male and female genetial organs occur usuall after the age of 40 But then as I said cancer has no respect for age and sex.

Now how do you realise that one has cancer. Of course if cancer is on visible parts of the body it is too evident, and none will keep quiet. But cancer of the stomach is notoriously silent and as I said earlier it occures in elderly group and there are hardly any symptoms. Whatever there are, they are so vague that one tends to ignore them. A man who was fond of non-vegetarian slowly begins to dislike non-vegetarian-in other words change in food habits. Slowly the voracious eater becomes a poor eater and too tired. Usually these symptoms we attribute to advancing age. Then he begins vomitting. But by the time the cancer has clawed its way to the liver, lunges and perhaps to the brain. Perhaps he may live for another 6 months with or without treatment. Tumors of the brain whether benign or malignant are not so silent. Because there is no place for them to expand, pressure symptoms like headache, double vision or paralysis makes the patient seek medical attention fast. But then the organ involved is the brain.

Now comes leukemia, in other words Blood cancer which is dangerous for two reasons. It is very silent with ambigous symptoms to start with and of course since blood circulates, leukemia spreads literally like wild fire. Once leukemia is diagnosed the life span is anything from one month to 3 years depnding upon the type of leukemia. Of course the outlook is better now with treatment. In leukemia the symptioms are very vague. Some people have low grade fever, or they become pale and fatigued. Of course there are some leukemia which present so violently that one is forced to seek medical attention at once. These people present wiht red spots all over the body, high fever and bleeding from the nose gums. In such people the progress is grave and they just die sometimes before the diagnosis is made.

Can cancer be treated and cured

The answer is yes and no. Early detection of cancer follwed by curative surgery and cancer chemo thereapy and radio therapy can to a certain extent cure cancer But the outcome is always unpredicatable. Anyone who survives for more than 5 years is considered cured. Again for Leukemia there are various types of Drugs which do alleviate the symptoms and prolong life for a considerable length of time But then like othe cancers Leukemia are also most unpredicatable Some survive for 3-5 yeare without any problem and then just take a turn for the worse and die

Can Cancer be prevented

Again yes and no. After observing the ten commandments for prevention of cancer, you may still find the crab slowly advancing towards you. Then all that one can do is throw up one's hands and say "I have done my best and left the rest to God". No man can choose his parentage but he can certainly avoid adverse environments. It is believed that emotionally stable people are less prone to cancer. In other words living a simple honest life, having minimum bad habits can go a long way in keeping the crabs and wolves at bay. But then once I was asked by a very good friend of ours— why starve yourself and live 2 years longer-why not enjoy yourself and die 2 years earlier. This man was around fifty, short stout and stocky. He eats like a pig, drinks like a fish and smokes like a chimney and this was 18 years back. I am sure still he must be following the habits and still fighting fit. I am afraid all are not born lucky. So it is upto you to choose your way. ☐☐☐

BOOK REVIEW

Management Accounting By N.P. Srinivasan. Published by Sterling Publishers Pvt. Ltd., L-10 Green Park Extension, New Delhi 110 016. First published: 1986. Pages 317. Price Rs. 150.00

Management accounting became popular only after 1950 for presenting accounting information in such a way as to assist management in the creation of policy and in the day-to-day operation of an undertaking. It has been variously defined and described but mainly it is concerned with the efficiency of the various phases of management while it does not supplant-financial or cost accounting systems. Rather, it supplements them in-order to serve the diverse requirements of modern management.

This book explains in quite details and with the help of illustrations facts like analysis of financial statements, ratio-analysis, funds flow analysis, cash flow-analysis, budgets and budgetary control, expital-expenditure planning, marginal costing and cost-volume profit analysis, standard costing and variance analysis, and responsibility accounting. The decription is lucid and intelligible for the uninitiated. The book must serve as a useful guide-to students of commerce, accounting and managment for coming to grips with the intricate issues which crop up in the financial management of a business concern.

There is no doubt-that a management accountant plays a significant role in the decision-making process of an organisation. He occupies a pivotal position in the hierarchy while functioning as a member of the staff. He educates executives on the need for control information and on the ways of using it. He sifts relevant information from the irrelevant and reports the same in an intelligible form to the management and sometime to-the-interested external parties. But then, his job is limited to providing the required information in a comprehensive as well as reliable-form to the decision-making authority. That is why, neither the management accountant, nor the internal accounting reports can make the decision for the management. Yet, however, without information form the management accountant, the decisions of the management may not be as sound as they would be with it. The book is a useful addition to the existing literature on the subject.

Navin Chandra Joshi

(Contd. from page 9)

and lowest in harvesting (Rs. 1.94). Further the important point to be noted here is that this discrimation against women workers is not only in the operations like harvesting and spading which requires more physical labour but also in women worker intensive operations such as weeding and transplanting which are better performed by them

Minimum wages for women labourers

The wages paid to the women labourers were lower to the extent that they were far below the minimum wages fixed under Minimum Wages Act As table 3 shows, the actual wage rate paid and the minimum wage rate fixed by the State Government for reference period were Rs. 5-02 and Rs. 9-50 respectively Thus there was a difference of Rs. 3-67 between actual wage and minimum wage This difference varies from Rs. 2-73 to Rs. 4-50 across the entire district while, on the one hand, the male labourers were paid 22 paisa more than the minimum wage, on the other, the women labourers were at disadvantageous position by getting the price lower to the minimum wage for their labour. This indicates not only the violation of Minimum Wages Act but also their exploitation by their employers/ land lords.

One thing emerges from the above analysis that there is an urgent need for effective implementation of the Minimum Wages Act in respect of women agricultural labourers.

Conclusions

Women as agricultural labourers are discriminated in wage payment on sex basis. The difference between male and female wage rate was Rs. 3.89 in agricultural operations in Mathura District of U.P. and it varied from Rs. 2.84 to Rs. 4.83 across the entire district. Barring exceptions here and there, the wage difference in agricultural operations is observed in the areas where male wage rates are relatively higher to other areas. The wage differenee exist in all the six agricultural operations under enquiry including transplanting and weeding which are women intensive operations and are better performed by women labourers. The female wage rates were lower than the minimum wages and hence there is a need for effective implementation of Minimum Wages in respect of women agricultural Labourers.

Central Assistance to accelerate irrigation development

The Ministry of Water Resources have released a sum of Rs. 254.8 crores to the State Governments as central assistance for various schemes for water resource development in the country during the current year. This assistance is aimed at accelerating the pace of irrigation development in critical areas such as command area development, and minor irrigation. Funds are also provided for tackling problems such as floods and sea erosion. Three projects-the Don canal in Bihar, the Sutlej Yamuna link canal and the Indira Gandhi Nahar Project also receive funds from the Central Government.

Under the Command Area Development Programmes, grants are given by the Government of India on a matching basis to expedite the utilization of irrigation potential already created. During the current year approximately Rs. 135 crores was given to the States for the establishment, planning, surveys, warabandi crop compensation and construction of field channels. Under this scheme, subsidy is also given to the small and marginal farmers on the IRDP pattern.

For the development of minor irrigation grants-in-aid are given for various centrally sponsored schemes. During 1988-89, Rs. 8.60 crores was given to the States for strengthening their ground and surface water organizations, for encouraging the use of sprinkler and drip irrigation system and the rationalisation of minor irrigation statistics.

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Successful launch of 'Agni'



The maiden test launch of a long range missile, AGNI, was successfully carried out at 0717 hrs on 22nd May 1989 from the Interim Test Range (ITR) of the Ministry of Defence in Chandipur, Orissa by the Defence Research and Development Organisation.

This test is in the basic nature of proving advanced missile technologies developed under the Integrated Guided Missile Development Programme. This programme, initiated in 1983 is managed by a high-powered Board. The lead laboratory in the programme is the Defence Research and Development Laboratory at Hyderabad.

The programme involves 14 other DRDO laboratories, and about 63 work centres distributed in production entities in the public and private sectors, other national laboratories, universities and academic institutions. It is a national endeavour in pursuit of self-reliance.

The Interim Test Range at Chandipur on the sea coast of Orissa is now fully functional and has excellent facilities for instrumentation, missile tracking, communications etc. to support the current programme. ITR has already been used in the past for the surface-to-air missile, TRISHUL. The technology-proving test flight of AGNI has met all range safety requirements. This should set at rest the fears expressed in some quarters about safety precautions associated with such range operations in support of the country's indigenous, self-reliant missile development programme. The technologies which would be tested in the r&d vehicle project of AGNI are in the areas of multi-stage propulsion, closed loop guidance and control, re-entry, terminal guidance etc.

AGNI is a two-stage missile. The entire design, development, fabrication and testing of sub-systems and components is indigenous. The successful maiden flight of AGNI renews the country's confidence in the capabilities of our scientific and technical community and in the maturity of indigenous technologies.

It is recognised that accurate long range surface-to-surface missiles have a new relevance because they could well provide a non-nuclear option. The AGNI test missile project is expected to provide such options to the country in facing an increasingly complex security environment. The President, the Prime Minister and others have congratulated the scientists, engineers and all others associated with the successful launch of AGNI.□□□

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BANKING

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AUGUST 15 SPECIAL



India's breakthrough in desalination of seawater

Water resources of the globe are not evenly distributed. In fact oceans contain 97 per cent of the water available on the earth. Glaciers hold just two per cent and inland lakes and rivers account for the remaining one per cent. This is exactly why there is accute scarcity of potable drinking water in many parts of the world including many parts of India.

Free India took up the problem of water scarcity as a top priority one. The national effort for providing potable drinking water to all the people of the country has received a new thrust by making the task a major National Technology Mission.

When one looks at the vast expanses of three seas lashing the shores of Indian sub-continent one can not help wonder why there should be water scarcity in India.

Lakshadweep islands, the lushgreen tiny group of islands which attract tourists, not only from mainland but also from all over the world, face acute water scarcity.

The fact is that almost all the wells in these islands contain highly saline water due to the proximity of the sea. The TDS (Total Dissolved Solids) in the well water range from 2000 ppm to 20,000 ppm. The maximum permissible TDS in potable drinking water is 500 ppm only. The deeper the well the more saline is the water. Storage of rain water is not a practicable proposition. So is the question of bringing water from the mainland. The government has, therefore, come out with a programme of desalination of sea water to make it potable to meet the drinking water requirements of the islanders.

The Central Salt and Marine Chemicals Research Institute (CSMCRI) of the CSIR located at Bhavnagar in Gujarat has been entrusted with the task of evolving a desalination process that will help to provide potable drinking water to people in different parts of the country where it is not possible to provide natural drinking water or tap other sources to provide the same at cheaper cost.

The Lakshadweep group of islands have no choice in the matter of drinking water except to go in for the desalination process because the salt content of ground water is rather high. After a series of experiments and trials the scientists of CSMCRI have evolved the Electrodialysis process of desalination of sea water with Indian Technology and Resources. This has been acclaimed as a breakthrough as it has been found to be the cheapest way of desalination of sea water. The other processes like distillation and the multistage flash (MSF) process, which are widely used in Arab countries are costlier.

(Contd on cover III)

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New initiatives in the financial sector

V.P. Sawhney

The banking sector in India has undergone a very rapid transformation in the past two decades and it has already to its credit a nation wide infrastructure which is fully meeting the requisite needs of agriculture, industry, housing and so on. According to the author the country's financial system has now reached a level of maturity where new initiatives are increasingly more linked with the felt requirements of our growing economy.

THE FINANCIAL SYSTEM IN INDIA, COMPRISING of commercial banks and financial institutions has been taking continuing initiatives to provide the requisite response, both in policy and in its operational manifestation, to support the emerging needs for the Indian economy. While on the one side attention is being paid on greater mobilisation of savings and more capital formations, on the other, more refined instruments are being developed to provide better focus for need-based flow of credit to support the thrust sectors of the economy

The banking sector in the country has undergone a very rapid transformation in the past two decades and it already has to its credit a nation-wide infrastructure which is fully meeting the requisite needs of short-term credit for agriculture, small scale and other industries, housing, international trade, etc. The financial institutions, on their part, are providing for the long term requirements of these sectors The intention in this write up is to highlight some of the developments which have taken place in respect of working of the financial system in the last year or so. Needless to say that the importance of these initiatives has to be assessed in the total scenario of the Indian economy It is gratifying to note that the financial year, which has just passed, witnessed a remarkable performance, with an estimated growth of 9 per cent in Gross Domestic Product, as also in industrial production. The achievement in agriculture too has been record-breaking. Coming as it does after the unprecedented drought, the performance is also an indication of the inherent strength of the Indian finanical system and of the economy as a whole.

Agricultural and Rural Development

Some important initiatives taken in this regard were the following :

(i) For providing larger flow of funds to the agricultural sector, the direct lending of commercial banks to agriculture and allied activities has been raised from 17% of their total outstanding to 18% to be achieved by the end of March 1990. The banks are also enjoined to support fully the Special Foodgrains Production Programme which has been taken up in 169 districts in 14 States Statewise and bankwise targets of disbursement of crop loans have been worked out in this context by the Reserve Bank of India Likewise, banks have also been geared to extend the requisite credit support to farmers in the programme sponsored by the Technology Mission of Oilseeds

(ii) With a view to providing credit support in rural areas in a more comprehensive and integrated manner, the branch network in rural and semi-urban areas has been given a more purposeful reorientation with the adoption of the Service Area Approach Under this Approach, each rural and semi-urban branch in the country has been given a Service Area of about 15 to 25 villages in the neighbourhood of the branch for which the branch will have a prime responsibility for meeting the credit need The branch is required to prepare Village Credit Plans in consultation with all concerned and to assist its implementation thereafter in the matter of credit support More than 80% of the branches in the country have been provided a Service Area of 15 to 25 villages. Where this has not been possible, the Reserve Bank of India has accelerated the process of permitting the banks to open new branches so that the coverage in terms of the Service Area in such cases is also made manageable.

(iii) Reserve Bank of India has endeavoured in the past two years to reduce the interest rates on short-term agricultural loans to the maximum extent possible Effective from March 1, 1988, the rates had been reduced by 1 to 2.5 per cent. Effective from March 1, 1989, the interest rate for loans above

Rs. 15,000 and upto Rs. 25,000, was fixed at 12% per annum instead of the earlier range of 12.5 per cent to 14 per cent for such loans.

Small Scale Industry

One major initiative taken recently relates to the decision of the Government to set up a Small Industrial Development Bank of India (SIDBI) as a wholly-owned subsidiary of Industrial Development Bank of India (IDBI). The Bill for setting up this new institution has already been introduced in the Parliament. This was a long-felt need of the small industries to have an apex institution to take an overall view on all credit-related problems of small scale industry.

The scheme for National Equity Fund under IDBI has been further liberalised. It has now been extended to State Bank of India and its associate banks also. To encourage the rehabilitation of small sick units which are more viable, assistance under the Scheme is now available to such units which are located in towns/cities having a population of 15 lakhs as against 5 lakhs earlier The extent of refinance to banks in respect of term loans has also been raised from 75% to 100%

To ensure systematic follow up in the rehabilitation of sick units, Reserve Bank of India has laid down specific time framework for commercial banks to identify potentially viable sick small units and to initate the requisite nursing programmes. A firm monitoring mechanism has also been set up to ensure action on the part of commercial banks in this regard

The scheme of a single window clearance for small units has also been given a further impetus with greater inter-action between the apex institutions and the State financial institutions

Other industries

A very major initiative was taken recently to extend a measure of protection to borrowers of foreign currency loans against exchange risk. Three all India financial institutions (IDBI, IFCI and ICICI) have formulated the Exchange Risk Administration Scheme (ERAS) The scheme has been introduced with effect from April 19,1989. For loans disbursed from that data, a separate Fund known as Exchange Risk Administration Fund has been set up in IDBI with an initial contribution of Rs 5 crores each from the three financial institutions. Under this scheme, the composite costs of the foreign currency loans will comprise of interest on loans, spread to financial institutions and the exchange risk premium. The premium thus collected will be transferred to the ERAS Fund. The Government of India will extend support to the Fund in various eventualities.

To ensure import of capital goods for projects assisted by financial institutions and that the imports are made under the best available terms, the financial institutions, have also instituted a procedure similar to the international competitive bidding for such imports of value of Rs. 25 crores and more. The procedure involves advertisements abroad, prequalification, finalisation of tender documents, tender evaluation and finalisation of contracts.

In industrial production, conservation of energy is extremely vital. With a view to encouraging this, IDBI launched in June 1988, two new schemes-Equipment Finance for Energy Conservation Scheme and Energy Audit Subsidy Scheme Under these schemes, amongst other things, concessional assistance is also given for acquistion of instruments for carrying out energy audits

In order to give a further thrust in the rehabilitation of sick units, a decision has been taken to provide excise relief to weak units as part of the diversification/modernisation/rehabilitation package approved by the financial institutions

In respect of convertibility guidelines, further relaxations have been provided to hospital projects and 100% export oriented units. These are now exempted from convertibility stipulation Exemption has also been provided in respect of loans to new projects in category 'A' backward areas. In respect of loans for diversification/expansion schemes, the relaxations are, however, contingent to their being no default on the part of the parties concerned.

Assistance under the Textile Modernisation Scheme has now been made available to powerlooms and the process houses also provided these are incorporated as public/private limited companies or as industrial units

Exports, Tourism, Shipping and Deep Sea-fishing

In order to make the credit for exports even more attractive, with effect from March 1, 1988, interest rate on preshipment credit upto 180 days has been reduced from 9.5% to 7.5% per annum, while the rate for period beyond 180 days and upto 270 days (in cases where the extension of period has been approved by the Reserve Bank of India) the rate has been reduced from 11.5% to 9% per annum The interest rate on post-shipment credit too has been reduced from 9.5% to 8.5%

A new body, namely, Tourism Finance Corporation of India, a subsidiary of the Industrial Finance Corporation of India, has been set up This would enable special attention being paid to the growing needs of this sector Financial institutions will henceforth treat many of the tourism related activities as an 'industrial activity' under the provisions of the IDBI statute

Government of India has also issued the guidelines relating to venture capital. This area is increasingly becoming more important, with the growing emphasis on hightech industires. The guidelines provide for certain tax concessions and also enable exit routes for venture capital companies to make

their public issues with premium, where the pricing decision is taken by them.

The Shipping Credit and Investment Company of India Ltd. (SCICI) has taken notable initative to formulate restructuring packages for the important shipping companies operating in the country. The packages provide *inter alia* the scaling down of debt to the market value of the fleet, capitalisation of interest areas and strengthening of equity base. SCICI also commenced providing leasing services as an additional financing to meet the increasing resource needs of the shipping and deep sea fishing industry

Housing Finance

Several policy initiatives, including the setting up of the National Housing Bank at the apex level, have been taken in the recent past. National Housing Bank started its operations with effect from 9th July 1988. Effective from July this year, the Bank is launching Home Loans Accounts Scheme which provides for individual savings specifically for housing with certain fiscal concessions. The Bank would also refinance loans given by commercial banks upto Rs 50,000 The banks would also concentrate more on direct lending. In November 1988, the Reserve Bank of India also moderated the rates of interest on loans taken for housing. On loans upto Rs. 20,000/-the interest rate has been fixed at 12.5%, between Rs 20,000 and Rs. 50,000/- at 13.5%, above Rs 50,000 and upto Rs. 1 lakh, 14% and above Rs 1 lakh, ranging from 14.5% to 16%. Banks will also now provide reasonable loans for repair and renovation purposes. Bank and various financial institutions are also taking initatives to set up separate housing finance companies

Capital Market

The important steps taken in this area are as follows :—

(i) The Securities and Exchange Board of India has been set up by Government of India The Board has been vested with several statutory powers to ensure a healthy growth of the stock and capital market.

(ii) For strengthening capital market infrastructure, the Stock Holding Corporation of India Ltd. and Credit Rating Information Services of India have also been set up.

The Securities Contract (Regulation) Rules, 1987, have been amended to provide for corporate membership in stock exchanges.

The current year's Union Budget also announced the Equity Linked Savings Scheme which could help to increase flow of savings towards equity instruments. With the equity oriented mutual fund set up by Unit Trust of India and the new mutual funds set up by commercial banks, there has been perceptible increase of public interest in subscribing to this activity.

Credit Policy

A number of steps have been taken recently to make the banking system more viable in disbursal of credit. A certain amount of competitiveness is also introduced and another operational decision-making is the basic thrust of the monetary policy. Some of the important points are listed below:—

(i) As a vital move towards liberalisation of the financial system and providing relief to borrowers with good track record, with effect from October 10, 1988, in place of fixed interest rate of 16% earlier, banks are now required only to keep a floor rate of 16%.

(ii) Another important step towards liberalisation was the removal of Credit Authorisation Scheme involving prior authorisation by Reserve Bank of India in certain large borrowal accounts. Instead of this, Reserve Bank of India will now be making only post sanction scrutiny of such accounts. This step would enable the banks to provide quicker credit to large borrowers

(iii) Keeping in view the internationally accepted banking practice to provide potential norms for risk management of banks, limits have been fixed on a bank's exposure to individual business concern at 20% and to business concerns of a group to 50% of a Bank's capital fund In reckoning this percentage, the exposure shall include all sanctioned funds and loan fund limits. The ceiling will however not apply where the credit limits have been directly allocated by the Reserve Bank of India, such as food-credit, etc.

(iv) New instruments for inter-bank participation have been introduced. To further widen the range of money-market instruments with choice also to investors, Certificates of Deposits have also been permitted

Customer Service

In this area, two notable steps taken are the following:—

(i) Bouncing of cheques has been made a criminal offence with the amendments made under the Banking and Public Financial and Negotiable Instruments Laws (Amendment) Act 1988. This step had been taken mainly to enhance the acceptability of cheques in settlement of liabilities by making the drawer liable for penalties in case of bouncing of cheques due to insufficiency of funds in the account. The law however gives a reasonable opportunity to the parties concerned to settle their dispute before a resort is made for criminal action. The aforesaid Act also provides for raising the rate of interest payable on negotiable instrument from the due date, in case no rate of interest is specified, from the present level of 6% to 18%.

(ii) Parties are now permitted to freely transfer borrowal accounts from one bank to another,

(Contd. on page 14)

Two decades of bank nationalisation

A. Ghosh

Outlining the reasons for the nationalisation of Banks, the author says that the spectacular development in the last two decades in the field of banking in the country is the spread of branch net work of banks. This has led to mobilisation of savings in a large way which in turn helps to channelise bank credit to various sectors of the economy in accordance with the socio-economic policies of the government. In short, the nationalisation of banks has proved to be a move in the right direction, says the author.

BANKS PLAY A ROLE OF CONSIDERABLE economic significance as intermediaries in mobilising public savings and channelling the flow of funds for productive purposes, helping in the process, the economic growth of the country. Realising the importance of the role of the banks in economic development, Government of India/ Reserve Bank of India took several major initiatives after the country attained Independence to gear the banking system to subserve the national objectives. One of the most momentous of such initiatives was the substitution of private ownership by public ownership, through the medium of an Ordinance, of the 14 largest commercial banks in the private sector on 19 July 1969, which has been popularly come to be known as 'nationalisation' of these banks. In July this year, this major development will be two decades old and this occasion is an opportune moment to take stock of the impact of the 'nationalisation' and assess the extent to which its objectives have been met.

As is wellknown, the taking over of commercial banks in the private sector by the Government or its nominees, has come about in four stages, viz. (i) nationalisation of the Imperial Bank of India and formation of the State Bank of India in 1955, (ii) formation of the seven subsidiaries of the State Bank of India in 1959-60, (iii) the 'nationalisation' of 14 banks in 1969, mentioned earlier and (iv) 'nationalisation' of 6 additional private sector banks in April 1980. Besides, since 1975, nearly 200 Regional Rural Banks have been set up under the joint ownership of Central Government, concerned State Government and banks in the Public Sector (excepting in one case) with certain specific objectives. As such, while discussing the impact of 'nationalisation', the performance of all these banks in the Public Sector has to be kept in view.

The banks in the private sector were, naturally, following policies which would enable them to maximise their profits, albeit within the framework of directions/regulations issued by the Reserve Bank in terms of the powers vested in it under the Banking Regulation Act and the Reserve Bank of India Act. Prior to 'nationalisation', most of the banks were controlled by a few leading industrialists/ businessmen and the bank assistance largely extended to well to do classes who could offer various securities. They were also essentially urban oriented. It was, therefore, felt that unless there was a change in ownership and management of banks by bringing them into public sector, it would not be possible to transform the class banking into mass banking and align bank credit to serve the plan priorities and social needs. For giving effect to this thinking, Government initially introduced 'Social control' over banks and followed it up with the decision in July 1969 to nationalise all banks with aggregate deposits of Rs. 50 crores and more. When this measure was taken, the State Bank of India and its subsidiaries were already in the public sector and consequently it placed Government in direct control of large part of the banking sector in India, which was considered essential for implementation of its policies and plans.

Objectives of 'nationalisation'

The principal broad objectives behind the philosophy of State ownership were as follows.

(a) bringing about wider territorial and regional spread of bank branches for providing banking facilities to all segments of the entire population, including those residing in semi-urban and rural areas; (b) taking concerted action for larger mobilisation of financial savings of the community; (c) re-orientation of credit deployment for ensuring that need-based bank credit was available to all productive sectors, including hitherto neglected and weaker sections/sectors, (d) professionalisation of management, and (e) involving banks in bringing about social justice.

Thus, the decisions to take over major banks had both economic and social objectives The extent to which the different objectives have been fulfilled is worth considering

Branch expansion

The most significant and spectacular development which has taken place in the last two decades in the field of banking in India is the spread of branch net work of banks, particularly those in the public sector. The successive branch expansion programmes formulated by the Reserve Bank of India in consultation with Government have been aimed at making available necessary banking facilities in all the parts of the country, special emphasis being laid on opening of branches in unbanked rural and semi-urban areas, as the opening of branches of commercial banks in these areas was perceived as essential for implementation of projects for Rural Development and upliftment of economically weaker sections. Concurrently the need to reduce the inter-regional disparities in the spread of banking facilities and to lay emphasise on acceleratión of opening of branches in the districts which were considered deficit, was kept in view All along, conscious endevour has also been made to consistently bring down the ratio of population per bank office The tremendous progress made in the area of branch expansion since July 1969 will be evident from the following data·

(i) The number of branches of commercial banks increased from 8262 at the time of nationalisation of 14 banks to 42,434 as at the end of December 1988; besides, as on the latter date, Regional Rural Banks had a network of 13,876 branches

(ii) While the branches of public sector banks consituted 79 8% of the total brances of commercial banks at the time of nationalisation of 14 major banks, this ratio was 89 9% (excluding the branches of RRBs) as at the end of December 1988.

(iii) The average population per bank office, has come down from 65,000 in July 1969 to 12,000 in December 1988.

(iv) In July 1969, the average population per bank office varied between as much as 205,000 in North Eastern Region and as low as 35,000 in Northern Region. By December 1988, this disparity had been narrowed down to between 17,000 in North Eastern Region and 9,000 in Northern Region.

(v The ratio of branches in rural and semi-urban areas to total branches of all commercial banks (excluding RRBs) improved from 62 5% in July 1969 to 68 9% in December 1988.

Mobilisation of Savings

This is an area in which the performance of the entire banking industry has been commendable during the last two decases, as will be seen from the following data·

(i) Aggregate deposits increased from Rs. 4,640 crores in June 1969 to Rs 1,39,000 crores in December 1988

(ii) Number of deposit accounts went up from about 1 6 crores in March 1969 to about 28 crores in December 1988

(iii) The ratio of deposits to national income at current prices rose during the above period from 15.2% to 48.9%

The special contribution of the public sector banks in this direction has been in spreading the banking habit even in the remote and backward areas of the country While the protection by way of insurance cover is available to depositors of eligible private sector banks also, for many among the depositors the ownership of a bank by the Government provides an additional psychological safeguard It is to be noted that as at the end of 1987, the deposits with the Public Sector banks constituted 90% of aggregate deposits of banks Thus, the objective of larger mobilisation of savings can also be considered to have been achieved

Deployment of credit to priority/neglected sections

Traditionally, commercial banks in the private sector were financing trade and commerce and, to some extent, large industries. Consequently, the farmers, craftsmen and other self-employed persons could expect their requirements of credit to be met by either the co-operatives or the money lenders Systematic lending to the agricultural sector started with the formation of the State Bank of India. A beginning was also made by it in extension of credit to small scale industries and other small borrowers in an organised manner and other major commercial banks too joined in lending to small-scale industries, etc. However, the overall quantum of such credit continued to be much below the requirements of the small farmers, small entrepreneurs, etc. With a view to overcome this lacuna, certain steps were taken under the scheme of 'social control' of banks and this was followed by the nationalisation of 14 banks in July 1969.

At about the same time, the Lead Bank Scheme was introduced, under which the responsibility for formulating plans and programmes (in which the banks were to be involved) and co-ordinating implementation there of, in each district was entrusted to one bank, nominated as the Lead Bank. The tasks for the Lead Bank involved carrying out surveys, identifying centres for opening of branches, formulation of District Credit Plans, etc. The Lead Bank was, thus, to play the role of a leader in respect of the banks' involvement in meeting the credit requirements for the implementation of the development programmes for the district, at the same time, for successful implementation of the plans, it had to invoke the co-operation of other banks in both opening of branches and financing of different activities and maintain close liaison with the other agencies in the district.

The above mentioned measures substantially contributed to the channelising of bank credit to various sectors of the economy in accordance with the socio-economic policies of Government which involved, inter alia, flow of credit to sectors which were hitherto neglected The concept of 'priority sectors' was introduced and while initially borrowers from agricultural and small scale industries sectors were covered thereunder, over the years their scope has been enlarged to include professionals and small-employed persons, small transport operators, retail trade and small business Concurrently, targets and sub-targets for credit to the different sectors were stipulated/enhanced. Thus, in 1972 it was stipulated that the level of credit of the banking system to priority sectors should be 33 1/3% of the total credit but it was raised in March 1980 to 40% of total credit to be reached by March 1985.

The 28 commercial banks in the public sector have all along been at the vanguard in financing these sectors and all of them have met the target individually Collectively, their advances to the priority sectors contributed as much as 45 7% of total advances as at end of June 1988 At the same time, their total advances to weaker sections in priority sectors, (comprising (i) small and marginal farmers, with land holdings upto 5 acres, landless labourers, tenant farmers and share croppers, (ii) artisans, village and cottage industries enjoying credit limits upto Rs 25,000, (iii) beneficiaries under special programmes like IRDP, DRI and SEPUP and (iv) beneficiaries belonging to scheduled castes/scheduled tribes) constituted 11 8% of total advances as against the target of 10% prescribed therefor. It is to be noted that the borrowers under the priority sectors are being financed at concessional rates of interest much below the rate for commercial advances (with as low a rate as 4% for advances to beneficiaries under DRI scheme). The break up of the public sector banks' advances to the priority sectors as on last Friday of June 1988 was as under:

Sector	*No. of Accounts (in lakhs) June 1988*	*Amount Outstanding (Rs. crores) June 1988*
I Agriculture	191.28	12,110.54
(i) Direct	182.72	10,699 67
(ii) Indirect	8.56	1,410.[illegible]
II Small-Scale Industries	23.57	10,874.24
III Other Priority Sectors	95 40	6, 245.14
IV Total Priority Sector Advances	310 25	29,229.92
V Total Bank Credit		63,950.22
VI Percentage of priority sector advances to total Bank Credit		45.7

While the performance of banks in extending credit to farmers and other borrowers from the rural areas has been generally satisfactory, the need for improving the quality of lending and ensuring that the credit was used in increasing production, productivity and income levels of rural people has been receving the attention of Government, Reserve Bank and others concerned. Consequently, it was decided in early 1988 to adopt 'service area' approach to rural lending, which involves assigning specific areas to each bank branch in rural and semi-urban areas so that they could concentrate on productive lending Under this approach, after the sevice area of each branch is identified and a survey is undertaken for assessing the lending potential/identification of beneficiaries, credit plans for servicing the area are to be drawn up and thereafter, through proper co-ordination and. monitoring of activities, it is to be ensured that each bank branch makes optimum contribution to the development of the area. This exercise also envisages that each branch serves not more than 25 villages and if on the basis of this criterion need is felt for additional bank branches, necessary permission therefor will be given. On the basis of such surveys, banks have been approaching Reserve Bank for necessary sanctions for additional branches since January 1989 and so far about 800 additional branches have been allowed for the implementation of the programme. Consequent to the adoption of the new approach, the contribution of the public sector banks in rural lending is expected to improve further, both qualitatively and quantitatively.

Another area in which banks have been called upon, as a measure of conscious policy, to make special efforts and, if necessary, financial sacrifices, is the rehabilitation of sick/weak industrial units. Banks are expected to ensure that no unit should be allowed to close down for want of need based credit and for those which are sick or weak, but are viable, all efforts should be made to revive them, if need be by extending some reliefs. As in other areas involving socio-economic issues, the banks in the public sector are substantially involved in the rehabilitation of large, medium and small-scale industries.

Thus, in the last two decades, the 'nationalised' banks have played a significant role in bringing about

(Contd. on page 38)

Trends in banking since Nationalisation

V.V. Bhat

The steps taken to achieve the objectives of nationalisation of commercial banks have brought about structural and qualitative changes in the profile of Indian banking. What are these trends and how far have they helped in achieving the set goals? The article presents a detailed study of these important trends and their outcome.

SOCIAL CONTROL ON INDIAN COMMERCIAL BANKS took a specific shape with the nationalisation of 14 large commercial banks having deposits of Rs 50 crores and above on 19th July, 1969 The objectives of nationalisation can be summarised as (a) widening of branch net work of banks particularly in the rural and semi-urban areas; (b) greater mobilisation of savings; (c) reorientation of credit flows so as to benefit the hitherto neglected sectors such as agriculture, small scale industries and small borrowers. The steps taken to achieve these objectives have brought about structural and qualitative changes in the profile of Indian banking. This dramatic change is best depicted by the following statistics which speak for themselves (i) Between June 1969 and September 1988, the total number of commercial bank offices rose from 8,262 to 55,797 The number of rural branches increased from 1,832 to 31,429 The average population served by bank offices has improved from 65,000 to 12,000, (ii) The number of bank deposit accounts rose more than 17 times from 16 million at the end of March 1969 to 280 million by the end of December 1986 The total number of borrowal accounts under the priority sector alone is around 33 1 million (as on Dec 1988) (iii) Aggregate deposits increased from Rs 4,640 crores in June 1969 to Rs. 1,39,000 crores in December 1988 The ratio of deposits to national income at current prices rose during this period from 15.2% to 48.9%; (iv) Total bank credit rose from Rs 3,599 crores (June 1969) to Rs 80,123 crores (in Dec 1988). (v) The ratio of priority sector advances to net bank credit by public sector banks has recorded a jump from 14 6% in June 1969 to 45.1% in December 1988. The range, reach and dimensions of the banking system have changed vastly during the last two decades.

Geographical Coverage

Branch expansion after nationalisation has been guided by the branch licensing policy, evolved by Reserve Bank of India (RBI). The Lead Banks prepare and submit lists of identified centres for opening new bank offices, in consultation with respective State Governments Thereafter, RBI permits the opening of branch offices based on norms of population coverage and distances (According to the current branch licensing policy (1985-90) the population norm

Table 1

Statewise distribution of Bank Offices and population per bank-office as at the end of June, 1969 and March, 1988

Name of State/ Union Territory	*Number of offices as at*		*Population per bank office as at*	
	June, 1969	*March, 1988*	*June, 1969*	*March, 1988*
			(in thousands)	
Andhra Pradesh	567	4283	75	13
Arunachal Pradesh	—	56	—	11
Assam	74	1021	198	12
Bihar	273	4285	207	16
Goa	85	253	8	4
Gujarat	752	3129	34	11
Haryana	172	1202	57	11
Himachal Pradesh	42	619	80	7
Jammu & Kashmir	35	728	114	8
Karnataka	756	4006	38	9
Kerala	601	2761	35	9
Madhya Pradesh	343	3888	116	13
Maharashtra	1118	5077	44	12
Manipur	2	65	497	22
Meghalaya	7	133	147	10
Mizoram	—	50	—	10
Nagaland	2	68	205	12
Orissa	100	1802	212	15
Punjab	346	2053	42	8
Rajasthan	364	2783	70	12
Tamil Nadu	1060	4007	37	12
Sikkim	—	19	—	17
Tripura	5	139	276	15
Uttar Pradesh	747	7475	119	14
West Bengal	504	3608	87	15
Andaman & Nicobar Islands	1	15	82	13
Chandigarh	20	107	7	4
Dadra & Nagar Haveli	—	6	—	17
Daman & Diu	—	10	—	8
Delhi	274	1059	10	6
Lakshadweep	—	5	—	8
Pondicherry	12	63	31	10
All India Total	8262	55015	65	12

Table 2

Share of Rural Bank Branch offices in new offices

Period *July to June*	*Total Offices opened during the year.*	*Of which those opened in rural areas.*	*Percentage of rural offices*
1970-71	1882	1217	64.7
1975-76	2490	881	35.4
1980-81	3287	2550	77.6
1983-84	3253	2694	82.8
1984-85	6222	5061	81 3
1985-86	1266	936	73 9
1986-87	587	529	90 1
1987-88 (July to March, 88)	1124	1028	91.4

is 17000 per branch and approximately 10 KM distance from an existing branch.) For example, in 1987-88, out of 8,130 centres identified, 4,958 centres in rural and semi-urban areas found eligible were allotted to commercial banks, including RRBs, 2046 centres were allotted to RRBs., 2,787 centres were allotted to public sector ~~banks~~ and 125 centres to private sector banks. Besides, 578 branches at urban centres were allotted. There has been six-fold increase in branch offices since nationalisation. Table I gives the geographical coverage at a glance

The rural bias in branch expansion is well-illustrated in Table-2.

Structural Changes

The structural changes in the scenario of banks is given in Table-3

It may be noted that public sector banks account for 92% of the commercial banking business. Since Regional Rural Banks are an additional layer in the banking sructure since 1976, it is necessary to cover their role in a little more detail

Regional Rural Banks

Regional-Rural Banks (RRB) were conceived as specialised agencies for rural banking. As on June 30, 1988, 196 RRBs were set-up covering 363 districts of the country. As at the end of December 1987, RRBs had a network of 13,353 branches. Uttar Pradesh had the largest number of branches (2905), followed by Bihar (1777) and Madhya Pradesh (1512) These 3 States accounted for 46 percent of total number of branches. As at the end of December 1987, deposits and advances of RRBs stood at Rs. 2,305 crores and Rs. 2,232 crores respectively RRBs have added a new strata to Indian banking.

NABARD

The National Bank for Agriculture and Rural Development (NABARD) provides short term credit and refinance facilities to State Cooperative banks

Table-3

Composition of Indian Banking Sector

(Amount in Rs. crores)

Type of Bank	*No*		*No of Branches*		*Deposits*		*Advances*	
	June 1969	*1988*	*June 1969*	*Sept 1988*	*June 1969*	*Dec. 1988*	*June 1969*	*Dec. 1988*
1 Public Sector Banks	22	28	6596	37759	3871	125199	3017	70424
(a) State Bank of India	1	1	1569	7707	948	25610	966	18201
(b) State Bank of India Group	7	7	893	3461	291	12057	219	5734
(c) Nationalised Banks	14	20	4134	26591	2632	87532	1832	46489
2 Private Sector Banks:								
(a) Foreign	—	21	130	136	478	5274	385	3559
(b) Indian	—	29	1319*	Sept 88 4198	297	June, 88 5667	197	June,88 3143
3 Regional Rural Banks	6	196	Oct '76 339	Sept '88 13665	Oct '76 4	June' 88 2376	Oct '76 5	June,'88 2376
4 Cooperative Banks (Data as on 1986-87 coop year)								
(a) State Coop. Banks	—	29	—	—	—	3818	—	4066
(b) Central Coop Banks	—	353	—	—	—	5928	—	6217
(c) State/Central Land Development Banks	—	19	—	—	—	3901	—	2829
(d) Primary/Urban Coop Banks	—	June'88 1371	—	—	—	(Working Capital) January '88 5326	—	January '88 4249

* This includes branches of six banks which were nationalised in 1980

and RRBs. It functions as an apex institution in the organised rural credit structure. Since its inception, it is playing a nodal role in the structure of rural banking.

Credit Deployment

The qualitative change in the deployment of credit to different sectors may be seen in the following table:

Table 4

Sectoral classification of Advances of Scheduled Commercial Banks

(Rs. in crores)

Sectors	March 1968 Amount	% to total	June 1986 Amount	% to total
1. Industry.	2,068	67.5	23,970	42.7
(a) Large and Medium Industries.	1,857	60 6	17,052	30.4
(b) Small Scale industries	211	6.9	6,918	12.3
2. Agriculture and Allied Activities of which	67	2.2	9,770	17.4
(a) Direct Finance	–	–	8,312	14.8
(b) Plantations	58	1.9	550	1.0
3. Internal trade				
(a) Wholesale trade	541	17.7	9,267	16.5
of which Food procurement	109	3.5	6,411	11 4
(b) Retail Trade	47	1.5	2,675	4.8
4. Services	–	–	1,878	3.3
5. Personal Loans	–	–	2,103	3 7
6. All others	341	11 1	6,519	11.6
7. Total	3,064	100	56,182	100

The above figures show the impact of consciously adopted bias in favour of small scale industries and agriculture.

Advances to Priority Sector

The concept of priority sector was evolved to ensure that public sector banks will promote the development of certain identified sectors in a targetted manner. The aggregate number of priority sector borrowal accounts of public sector banks stood at 330 lakhs in Dec. 1988. The corresponding amount was Rs.32564 crores. The share of priority sector advances in total bank credit was 45.1% in Dec. 1988. A target of 40% by March 1985 was prescribed for priority sector lending. Prior to nationalisation, priority sector lending accounted for only 14.6% (June 1969). However, for the last few years public sector banks have been able to lend more than the targetted percentage of 40 (1986 June (41.6); 1987 (June) (43.2). The following table gives the break-up of lending to the priority sector:–

Private Sector Commercial Banks are also expected to extend loans to priority sector. Guidelines issued by Government and Reserve Bank of India regarding lending to priority sector and for special programmes are applicable to all banks. In June 1987, private sector banks lending to priority sector stood at 38.3% of their total advances.

Table 5

Public Sector Banks' Advances to Priority Sector

Sector	(In thousand) No. of Accounts June 1969	Dec. 1988	(Rs. in crores) Amount Outstanding June 1969	Dec. 1988
1. Agriculture	165	20387	162	13502
(a) Direct Finance	160	19575	40	11952
(b) Indirect Finance	5	812	122	1580
2. Small Scale Sector (Units)	51	2,888	251	12209
3. Other Priority Sectors.	42	10112	28	8753
4. Total Priority Sector Advances	260	33097	441	32564
5. Percentage of Priority Sector Advances to total bank credit	–	–	14 6%	45 17

In 1988-89, foreign banks have also been advised to lend to priority sector. As a first step, they have been exhorted to lend up to 10% of their total adances to the priority sector.

Special Programmes

A large number of special programmes of lending have come up in the last two decades adding new responsibilities to the banks

20-Point Programme

Twenty point programme was a package of measures announced in the Seventies for toning up the economy. It has been revised from time to time. In this programme, which was last revised in August 1986, fifteen out of twenty points have relevance to the banking system. As at Dec. 1988, the 28 public sector banks had extended financial assistance to the tune of Rs. 7965 crores under 133 lakh borrowal accounts. This amount accounted for 24.5% of their total priority sector advances.

Differential Rate of Interest Scheme

Under this Scheme, started in 1972, public sector

Table 6

Lending under DRI Scheme by public sector banks.

As at the end of Dec.	No. of borrowal Accounts (000's)	Amount outstanding (Rs. in crores)	Percentage to total advances
1972	26	0.87	0 02
1975	465	30.90	0 31
1980	2510	193.56	1.04
1985	4316	462.76	1 10
1988	4618	646.38	1 00

banks have to lend at least one per cent of the outstanding advances as at the end of the previous year to the weaker sections. (whose family income does not exceed Rs. 6400 in rural areas and Rs. 7200 in urban areas) Table-6 provides a summary of the performance in this regard:

At least 40% of the advances under DRI Scheme are to be sanctioned to SC/ST. Amount advanced to SC/ST as at December 1988 was 331.25 crores, constituting 51 21% of total DRI advances.

Self-Employment Scheme for Educated Unemployed Youth (SEEUY)

Under this Scheme, introduced in 1983-84 educated unemployed youth are assisted to take up self-employment ventures About 1.01 lakh beneficiaries were sanctioned an aggregate credit of Rs 207.93 crores during 1987-88.

Self-Employment Programme for Urban Poor (SEPUR)

Under this Scheme, introduced in September 1986, the urban poor who were not covered under IRDP are assisted for taking up self-employment. During 1987-88, 3063 lakh beneficiaries were assisted to the extent of Rs 131 74 crores under this Scheme

Financial Assistance to Ex-Servicemen for Self-Employment (PEXSEM)

Under this Scheme which is operated in 18 selected districts, assistance is rendered for promoting self-employment of ex-servicemen

Advances to SC/ST and Minorities.

Banks have been advised to take special care of SC/ST and Minorities so that the flow of credit to these weaker sections is facilitated and monitored As at end of December 1987 advances in the 40 identified districts of minorities concentration amounted to Rs. 428.61 crores in 7.88 lakh accounts.

Table 7

Assistance provided by Banks under IRDP during VII Plan.

	Details	1985-86	1986-87	1987-88
		(Rs. in crores)		
(i)	Subsidy allocated	407 36	543 83	613.88
(ii)	Subsidy utilised	441 10	613 38	727 44
(iii)	Term-loans disbursed	730 15	1014 88	1175 35
(iv)	No of SC ST families assisted (in lakhs)	13 23	16 80	18 99
(v)	Total No of families assisted (in lakhs)	30 61	37 47	42 47
(vi)	Target-number of families to be assisted (in lakhs)	24 71	35 50	39 64
(vii)	No of women beneficiaries. (in lakhs)	3 03	5 67	8 30

Integrated Rural Development Programme (IRDP).

Banks have been involved in this poverty-alleviation programme of extending assistance to people below the poverty line. The progress of assistance given by banks is shown in Table-7

Of the total beneficiaries assisted in 1987-88, 44.7% belonged to SC/ST category and 19.5% were women. No area of mass banking has been as difficult and as challenging as this programme

Lead Bank Scheme

This has covered 440 districts of the country. Lead Banks have been taking necessary action for preparation and implementation of District Credit Plans and Annual Action Plans. The role of District Lead Bank officer, District-level credit Review Committee and State Level Bankers' Committee have been commendable in/establishing a mechanism for consultation, coordination and review.

Special Foodgrains Production Programme

169 potential districts have been identified in 14 States for meeting the credit needs of foodgrains production

Service Area approach

This new strategy for rural lending introduced in April 1989 envisages that each semi-urban and rural branch of commercial bank would be assigned specific area for ensuring its planned development This type of planning at micro level is expected to help systematic implementation of credit plans and continuous monitoring

Housing Finance

Meeting the needs of housing finance has emerged as an important activity In 1987 disbursements of scheduled commercial banks to housing amounted to Rs 194 44 crores In 1988 revised guidelines were issued by RBI to promote housing finance.

National Housing Bank

A National Housing Bank, with an initial share capital of Rs 100 crores has been established in 1988 to promote and develop specialised housing finance institutions for mobilising resources and extending credit for housing It is expected to function as a nodal agency for housing finance.

Rehabilitation of sick industrial units:

Industrial sickness has become a problem for the banking sector. The Board for Industrial and Financial Reconstruction has been established to evolve rehabilitation packages for sick iIndustries.

Latest Developments in the Banking Sector

The last few years have seen important changes in the banking sector. While liberalisation in the

banking sector has becom conspicuous, the banks have not lagged behind in taking new initiatives. These new developments are listed out below:

(i) The Scheme of Credit Authorisation was liberalised by entrusting the responsibility to the concerned banks (ii) Consortium lending guidelines have been issued to enable the leader bank to work more effectively through single window approach (iii) Subsidiaries for merchant banking, mutual funds, housing, financial services and leasing have been permitted. The financial services of banks and their subsidiaries are getting more diversified (iv) New instruments of service like Farmers Credit Cards, and cash dispensing machines have been introduced. (v) The money-market is getting more diversified Commercial Paper, Certificate of Deposits and removal of interest ceiling in call money market have exposed the banks to a more competitive money market (vi) Non-banking financial companies, raising of company-deposits by companies and aggressive banking policies of foreign banks are offering stiff competition to banks (vii) The Discount and Finance House of India Ltd and the Stock Holding Corporation of India are expected to develop a secondary market in treasury bills, commercial bills and other money market instruments (viii) The deregulation of interest at the higher limit in case of borrowal accounts which are performing well, is expected to foster competition among banks (ix) Introduction of MICR cheques and 'BANKNETs" for speedy communication and transfer of money (like SWIFT) are changing the pace of banking (x) The trend of 'disintermediation' has begun whereby large companies are able to mobilise their requirements from the capital market. (xi) Factoring services and venture capital assistance are under the consideration of banks. These will add new dimensions to the financial services rendered by the subsidiaries of Banks

Problems and Challenges

The developments in the banking system during the last two decades have resulted in some problems and challanges:

(a) Overdue advances constitute 17 4 percent of total out standing advances Growth in sick units and the amount locked up in sick units is substantial, (b) Profitability' of banks is under strain Profit as a percentage of working funds ranged between 0 09 per cent and 0 17 per cent between 1984-87 Interest costs as a percentage of working funds has increased overtime. While average yield on investments has increased substantially, the average yield on advances has declined. Many banks have felt that returns through financial services will be higher in the coming future as compared to traditional banking; (c) Customer Service has assumed importance, not only as an end in itself but also as a means of competition. Consumer awareness has increased remarkably, leading to criticism against service charges and delays.

(d) House-keeping functions of banks like reconciliation of accounts have scope for improvement. Security consciousness has improved considerably; yet vigilance against frauds and dacoities could be better With the expertise in the system and ability to respond to changes, it should not be difficult to face the emerging challenges. ■■■

(Contd. from page 6)

including those enjoying aggregate credit limits in excess of Rs. 5 crores, without obtaining any 'No Objection Certificate' from the existing bank However, the transferee bank will have to take over all liabilites of the party and not only the assets.

(iii) Communication network within the banking system is being continually strengthened State Bank of India took the initiative of setting up the SBINET, which links up most of its principal offices directly on line Likewise, Reserve Bank of India has also taken the lead for working out a blue-print for the 'bank network' and also for further action on the computerisation of banking operations Considering the volume of business which the banks are now faced with and which is growing exponentially from year to year, the need for mechanisation of operations to improve the customer service has become quite imperative

Some of the salient initiatves of recent origin have been outlined above The march is on The country's financial system has now reached a level of maturity where new initiatives are increasingly more linked with the felt requirements or our growing economy

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— Editor

Decentralised credit planning

Dr. B. Yerram Raju

The rural credit policy has already moved in the direction of decentralised planning. The recently introduced Service Area Plan envisages that each rural or semi-urban branch will operate in a limited area of not more than 25 villages for purposes of lending to priority sectors. This new strategy, says the author, does not replace the multi-agency approach but only a multi-bank approach. According to the author, the whole approach is beset with problems which dilute the very concept. To make this approach more productive, various agencies associated with it have to be lined up and well coordinated, says the author.

DISTRICT PLANNING EXERCISES PILOTED recently seem to be bordering on academics In fact, what type of planning is possible at the district level without any devolution of financial resources specific to the district from the State Government ? The State Governments distribute resources sector-wise and not district wise. Each department allocates for its projects basing on the pressures exercised and not on the basis of prioritisation demanded by the area. In this situation, the major resource the district administration is banking upon, is credit from banking institutions— particularly because the District Collector/District Magistrate who is the chairman of the District Consultative Committee of Bankers, is in a position to influence the flow of credit to some sectors through this forum.

Rural credit policy

The rural credit policy has already moved in the direction of decentralised planning. The recent introduction of Service Area Concept envisages that each rural or semi-urban branch will operate in a limited service area of not more than 25 villages for purposes of lending to priority sectors The average number of villages will depend upon the availability of number of branches of commercial banks in a block. Allocation of villages is based on proximity, contiguity, dominence of lending operations of a particular bank branch in that village so far and its location in a particular Panchayat Samithi, as far as possible From the year 1989-90, no bank branch is expected to do new loaning in other than allocated villages.

Each bank branch will prepare a survey of allotted villages and on that basis, village level annual action plans have to be prepared by them. The aggregation of these plans based on the potential for credit-based activities linked to infrastructure availability, will be the Service Area Plan of a bank branch and the aggregation of Service Area Plan will be the Block Action Plan for the year For the branch the performance budget will be the Service Area Plan so prepared.

It may be noticed that this new strategy does not replace a multiagency approach but only a multi-bank approach. Each bank branch is responsible for planning for development of allotted villages and for implementing those plans.

In the decentralised planning envisaged by the Government of India, with the commencement of the Eighth Five Year Plan, the districts may have to increasingly depend upon the locally available resource, namely, cooperatives, RRBs, and the Commercial banks. The accelerated credit flows in turn will depend upon the availability of scheme-specific infrastructure and the faster recycling of the bank which per force have to the accelerated by the district administration.

Data collection

The survey schedule aims to keep the bank staff informed about the resources of the village, the scheme-specific linkages that currently exist and the potential for further exploitation for the benefit of the people in the near future. The Manager knows the specific resources and potential of each service area.

He is supposed to plan with the help of this information, the number to be covered and the volume of credit The Lead Bank Officer is supposed to work out the details of schemes that are feasible in each block of the district and how much of credit is

needed for each individual scheme and the seasonality of credit flow for the shelf of schemes so prepared.

So far as commercial banks are concerned such "planning" may be posible. But the RRBs may not be able to take up the task. The RBI instructed that the RRBs prepare such plans for the target groups of the priority sectors, i.e., those beneficiaries whose percapita credit requirements are less than Rs. 25,000. There are a large number of RRBs in the country today whose lending capacities have eroded due to poor recovery. low capital base, heavily accumulated losses accompanied by staff unrest. The number of branches of RRBs is 12,748 by the end of June 1987. Conceptually, they are expected to cover an average of 20 to 25 villages for target groups. Even at the minimum of 15 villages on average, the number of villages that have to be covered by the RRBs would come to 1,81,120. While the RBI specified coverage in respect of nontarget groups in such villages it did not specify who will take over the target group responsibility in respect of disabled RRBs

Organisational linkages

Such plans prepared for the branch will require discussion with the Regional Manager, who is the link between grassroots planning and planning from the top. The regional manager, who receives a top-down allocation in that process has to reconcile it with the sum total of the SAPs. Service area plans and branch budgets were prepared with no integration between them. In one of the earliest directives on Service Area Approach, the RBI had mentioned that the performance budgets of the rural and semiurban branches would be the sum total of the village level action plans

This gives rise to a few fundamental issues. The manager of a bank branch in the rural areas allocates his outlay either equally or with minor variations between all his allocated villages. If 15 villages are allotted to a branch, each village gets an average allocation of 6.6 percent of the resource at his disposal. With this resource, he is supposed to prepare the village plan accommodating for the government sponsored programmes like the IRDP, SEEUY, SEPUP, tribal development plan etc , and also the commercial credit in priority sector or coverage of non-target groups The maximum outlay per village cannot be obviously more than what has been pumped in by all the comercial banks in this village for the past so many years together. But, the moment the RBI. and the GOI announced that Banks will henceforward plan for development of villages exclusively, it fuelled the expectations of the people from these credit institutions disproportionate to their own abilities. Banks are genuinely afraid that the demands on them will be considerable and sometimes take violent turn as well. Therefore, the block level Banker's Committee (BLBC) which should approve the SAPs may make some demands additionally on the managers when these come up for discussion. The Regional Managers should arm the Branch Managers with some powers to marginally adjust their plans earlier negotiated. The Manager of a branch has to discuss the plan so approved with the people for whom it is meant. Under what constraints and considerations the plan has been prepared, to what extent and for what schemes credit will be flowing, to what extent the cooperatives and the RRBs will be meeting the credit requirements in the village, the cooperation expected from the people for the successful implementation of the plan, should all be shared in a gram sabha After all the plan is meant for the people and their development These people should have a right to exercise their priority interests in the planning proces whichever be the agency coming forward to help them. It should also be conceded by everybody that the plans are bound to be limited or constrained by the availability of resources and provision of backward and forward linkages. The lendable resources too have their own limitations Once these limitations are shared with the people for whom plans are being made, there is likely to be greater acceptability to the plan and dilution of pressures consequently.

The reality

As against this conceptual backgrounds, what actually transpired in the field is quite different. Several Regional Managers approved Service Area Plans of Branches without understanding the import of the processes outlined by the RBI. The Lead Bank cells in the districts which are supposed to give location-specific schemes block-wise did not furnish them to Bank branches Several State Governments took a hostile attitude towards the strategy as the hold over the Block level Committees has been transferred from the Block Development Officers to the Bankers The Bankers were not extended co-operation by the governmemt agencies at the right time of plan preparation for incorporating the details of schemes sponsored/likely to be sponsored by them during 1989-90. Some Banks took it as an exercise in figures and wanted to impress the RBI by releasing the "Plans" fast In the North-east, because of terrain problems and inadequate Banking infrastructure, even surveys are not completed. Indifferent as it may look, the whole approach is also beset with many other operational problems which appear to lead to dilution of the very concept.

Operational problems

The RBI directed that the Rural Bank branches should confine all their new loaning operations to the newly ceded villages under Service Area Approach. While instructing the RBI has stirred the hornet's nest. It presumed that all the Bank branches will have the capabilities and willingness to lend in the rural and semi-urban areas. The problem areas of existing lending arrangements vis-a-vis the new approach centre round:

(a) Incomplete Term Loans Investments: which have to be completed with the assistance of the Bank that started loaning operations initially. This would mean that the new approach of limited area of operation is automatically enlarged. (b) Servicing of existing Term Loans: This would mean that the responsibilities of branches would only get compounded on this count. Apart from this, the pressure that is now coming up is that the farmers are exerting and they feel that their choice for a good servicing Bank branch cannot afford to be decided by a fiat of the RBI. (c) Irregular Crop Loans and Bad Loans: These loans will also continue to be serviced irrespective of Service Area. (d) The other major aspect of abberation relates to the State Governments dictating to the Banks after the commencement of implementation to modify the Service Area Planning.

The RBI & NABARD

Somehow or other, the impression that Banks are getting in the implementation of this new strategy is that both the apex institutions are not seeing eye to eye. The NABARD simultaneously launched preparation of District Credit Plans with its own machinery and wanted the Banks to work within that frame. The grass root level planning arrived at through the Service Area Approach did not seem to cut ice with the NABARD. The NABARD's directives to Banks in micro-level planning and RBI's directives are leaving the implementation machinery at the grassroots level in utter confusion.

Coordination and linkages

The primary objective of the Service area approach is to develop productive lending and forge effective linkages between bank credit, production, productivity and increase in income levels." Credit is a great facilitator for securing various inputs and technology and cannot by itself be an input. It is therefore necessary that various input supply and marketing agencies have to be appropriately lined up. The existing level of coordination between the District Industries Centres, District Rural Development Agencies and other functional departments is mostly related to target setting and target achievement in terms of financial flows. They are not sizing up infrastructure needed for making credit productive. Now that planning has to go to the village and block level, this would call for new orientation to the block level and district level officials. Apart from clear and categorical instructions from the government to that effect, joint training programmes between the block and bank officials at the district level itself would become necessary. Such training again has to be the joint effort of the banks and DRDAs.

The RBI Committee on SAP recommended the constitution of the Block level Bankers' Committee. Even as it is, there is a Block Level Consultation Committee. Under the new dispensation, the BLBC will be presided over by the LBO. All the banks operating in the block including the District Cooperative Central Bank, and Regional Rural Banks will be members of the Committee.

The other technical and extension officers at the block could also be associated as members. This is supposed to meet at monthly intervals. The specified functions of the committee are:

(i) To discuss the action plans of different bank branches and their aggregates into the Block Credit Plan

To consider operational problems in implementation of the credit programmes of banks, particularly in regard to availability of inputs and other linkages.

(iii) To review the progress in the implementation of the government sponsored schemes like the IRDP, SEEUY, etc. (iv) To review the implementation of the BCP and the provision of inputs required to support bank credit. No change is envisaged in the functioning of the DCC and the standing Committee. The RBI Committee, however, emphasised that the responsibility for the implementation of credit-based development programmes cannot exclusively be that of the credit agencies; it is equally important that the other departmental development agencies provide the necessary support for credit to be productive and the status of such support is reviewed in the DCC meetings just as the performance in extension of credit is discussed.

The implications of this exercise in co-ordination is that apart from merely implementing the plans prepared by the manger, ~~he has to~~ keep his data and information system on his plan at monthly intervals available for review: The responsibilities of the LBO have gone up increasingly. Unless the LBO is strengthened, he may not be in a position to discharge the responsibilities with expected care. Incentives should be given to the staff working in rural areas. Implementation of Plans to a degree of success will depend upon the co-operation of the co-operative agencies and the RRB branches on one hand and the extension of infrastructure support by the Block authorities. Each Block Action Plan will have to be approved at the Block level Bankers' Committee attended by the Block Development Officer and his extension functionaries. Wherever credit deployment is linked to a prospective infrastructure, which is specified by the Banker in his plan, once the plan is approved by the BLBC, provision of such infrastructure and relative flow of credit shall be the responsbility of Block Development Officer. At quarterly intervals the Block level Bankers' Committee review the performance as per the guidelines issued by the Reserve Bank of India.

The RBI should, therefore, instruct all the commercial banks that they should formulate their corporate plans and direct their Regional Managers to integrate their Service Area plans with the performance budgets before the end of the year. This should be done without any further loss of time.

(Contd. on page 38)

The other side of nationalisation

E.Elumalai

The banking industry during its two decades of nationalisation could not make much headway which otherwise it ought to have been, except creating employment opportunities for more than half a million, says the author. He chides the industry for misusing public money and if the trend continues, he warns, the banking industry may become a white elephant.

ON NINETEENTH JULY, 1989, THE BANKING Industry is completing 20 years of nationalisation era; certainly not a short period to take stock of achievements and non-achievements of an (y) institution. The so called experts, so far, took optimistic views invariably about the growth of banking industry and faithfully calculated the many fold increase of branch expansion, deposit mobilisation, credit dispensation or generation of employment. But, 'the other side' of above aspects-the abnormal increase in loss making branches year after year, the exalted deposit figures by unethical manipulations (called window-dressing), the continuous decline in the recovery of loans advanced, and the deteriorating customer service have been obviously ignored Even the recently concluded 'National Conference on Banking' is not an exception to the above observation-a cursory reading of a few papers presented by top-executives participating in the seminar revealed Although, Mr C. Rangarajan, the Deputy Governor of RBI, briefly mentioned the problems of recovery in his paper presented in the said conference, however, he failed to make even a reference to 'the other sides' i.e. loss making branches, effect of window dressing ,and deteriorating customer service.

It appears that officials belonging to public sector banks are not happy to discuss about the othereside of nationalisation in appropriate forums. By this attitude they commit gross injustice to this institution which is the backbone of the economy.

The present paper is aimed at measuring the growth by taking the other sides into consideration

Branch expansion vis-a-vis loss making offices

There is no published data available in respect of number of loss making offices. Neiher the RBI nor the Ministry of Finance has given or gives any importance on this vital aspect However, individual banks have their own system of monitoring the same An oral discussion with some of the bank officials concerned revealed the following things:

- The %age of loss making offices to total number of offices ranges from 25% to 35%.
- The %age of loss making rural offices alone is nearly 20% of total offices.
- The %age of loss making offices with more than 5 years of age alone constitute nearly 40% of the total number of loss making offices

With the help of above said discussion held, a rough estimate of area wise (Rural, Semi-urban, Urban, Metropolitan) loss making branches as on June '88 as given below has been made:

- Percentage of loss making offices to total offices-25%
- Percentage of loss making rural offices to total offices-18%.
- Percentage of loss making semi-urban offices to total offices-2%
- Percentage of loss making urban branches to total offices-3%
- Percentage of loss making metropolitan offices to total offices-2%.

Based on the above rough estimate, the area-wise actual number of loss making offices and profit making offices calculated from the total number of offices as on June '88 has been given in Table I

From the table, one may infer that the actual share of area-wise branches to total number of offices (excluding loss making branches) as on June '88 has stood for Rural at 38.1% as against populous claim of 56.1%, Semi-urban at 18 1% as against 20.1%, Urban at 10.2% as against 13.2% Metropolitan at 8.6% against 10.6%.

Also, the share of loss making rural, semi-urban, urban and metropolitan offices stood at 32%, 10%, 23%

and 152 respectively in respective categories as on June'88.

Growth of deposit vis-a-vis Window dressing

"Window Dressing" with respect to deposit is not a new concept to officials close to the banking circle. With a view to capture top position for cheap publicity, individual banks resort to unethical manuipulations having no limit whatsoever. Deposit figures are published on half yearly basis. However, a perusal of deposit figures in advance of and after a fortnight of the half-yearly closing vis-a-vis the figures on the date of closing of such half-years shall reveal the extent of manipulations done by all banks.The pre and post week of the 'closing' shall witness an exalt and plummet of thousands of crores of deposits respectively without calling any explanation.

Equally distressing feature is the method of calculation and computation of deposit for the purpose of publication. As on date, the aggregate deposits being reported include the interest accrued on the deposit for the current year. Technically speaking, the said interest accrued may become part of aggregate deposit. But the interpretation adduced by officials and experts over such increase vis-a-vis figures of corresponding period, as "fresh mobilisation of deposit during the year in question' is illogical as well as unscientific.

The above facts are known to everyone but nobody's wisdom permit to make provision for such knowledge while calculating as well as interpreting the growth rate for or over the year (s).

Again, there is no published data available on the quantum of depositis increased by way of window dressing as well as interest accrued on deposits. However, with the help of data published by the RBI for year ended 1986, 1987 and 1988 on the one hand and the data reported by way of an answer to a question raised in the Lok Sabha, on the other hand, the quantum of deposits included in the aggregate deposits by way of widow dressing and interest accrued on deposits @ 7% calculated by this writer, has been given in table II to have rough idea about the effect of such activities in the calculation of deposits.

It is worth to mention that the quantum of added deposit calculated for window dressing and interest accrued is at the minimum level as the calculation is based on the data presented by the Ministry of Finance to the Lok Sabha. The rate at which interest accrued to aggreate deposit is taken as 7%, keeping in view the proportion of fixed deposit and term deposit in the aggregate deposit, on the one hand, and the existing interest rate for such deposits respectively on the other. Here again, the rate is fixed at the minimum level only. If we calculate the actual average annual growth rate of deposits after making due provision

Table I

Growth of Branch Expansion as on June '88 vis-a-vis June '69

(In numbers)

Year Area	June '69	Branches as on June '88 Loss Making	Profit Making	Total
Rural	1833 (22 2)	9974 (18)	21140 (38 1)	31114 (56.1)
Semi-Urban	3342 (40.5)	1108 (2)	10024 (18.1)	11132 (20.1)
Urban	1584 (19 1)	1662 (3)	5660 (10.2)	7322 (13.2)
Metropolitan	1503 (18.2)	1108 (2)	4734 (8.6)	5842 (10.6)
Total	8262 (100.0)	13852 (25)	41538 (75 0)	55410 (100.0)

Figures in brackets indicate the % age to total No. of offices.

Table II

Aggregate Deposit vis-avis Actual Deposit

(Rs. in crores)

Year	Deposit as on 31st Dec.	Deposit: As on date given in brackets)	As on ditto (given in brackets)	Av. dep. (3 &4) as on 31st. Dec.	Intt. accrued on dep. @ 7%.	Actual Dep. as on 31st. Dec. (5-6)	Quantum of dep. effected through window dressing & intt. accrued
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1986	92515	92481 (26.12.86)	*91054 (16.1.87)	91767	6476	85291	7224
1987	107202	106921 (25.12.87)	105769 (15.1.88)*	106345	7504	98841	8361
1988	127372	—	123749 (13.1.89)	123749	8916	114833	12539

for the above explained factors on year to year basis since nationalisation, there is every possibility for such average growth rate to be less than 5 percent against all laudable claims made so far.

Advances vis-a-vis recovery

At the very outset, it is not an exaggeration to say that timely recovery of loans advanced is an essential requirement for proper recycling of funds. Secondly, it is the concern of all that poor recovery percentage brings undue strain on the Bankers. The percentage of recovery to demand for direct agricultural advances ranged between 50 to 57 percent during 1977 to 1987 period for which latest data is available. The situation is still worse in industrial sector due to enormous increase in the number of sick units. Reasons are many which are not the concern here.

The erstwhile window dressing techniques adopted by Bankers towards deposit did not spare even the advances port-folio. Officials, as usual, always assessed the quantum of increase in advances. But they ignored, while making such assessment, the hidden reality that the poor recovery percentage itself is one of the reasons for higher loan amount outstanding at a given point of time. The above can be explained with the help of an example. Let us assume that the advances as on Dec. 87 stood at Rs. 100 Crores. Let us further assume that during the year 1988, the recovery percentage was zero percent and, therefore, no fresh advances could be made. However, the loans outstanding as at the end of Dec' 88 will go upto Rs. 115 Crores by adding the interest over the Rs. 100 Crores @ 15%. It will otherwise convey that the advances during the year 1988 has increased at the rate of 15%., whereas in reality, there were no fresh advances made at all during that year and the increase is nothing but the interest accrued.

In the above explained way only, our officials feel happy just by seeing the figures of advances and allure the public.

The other aspect is that there was big hue and cry among the banking circle particularly, during second half of the current decade for the enactment of central legislation on recovery of Bank loans and establishment of separate tribunal to deal with such cases. At last, this issue came up for discussion in the Lok Sabha during the winter session of 1988, and the Government agreed to bring such legislation and create special courts. But, till date no progress had been made in this regard. It is high time for the government to convert the promise already made into reality by bringing such central legislation and constitute such special courts at the earliest to remove the incurable wound inflicted on the banking industry as a whole.

Generation of employment

It is beyond dispute by any one that the banking industry provided employment opportunities to more than 6 lakhs people since nationalisation to June 1986. It is the only, as well as, worthy achievement made by the banking industry in this country of unemployment. At the time of nationalisation, the employees in the pay roll of the banking industry were. 1.75 lakh. As on June'86 the same stood at 7.90 lakh (see Table III.)

Table III

Employment Generation in Public Sector Banks

	As on 30.6.69	*As on 30.6.86*	*As on 30.6.88* (Estimated)*
1. Officers	26,837	2,00,914	2,10,055
2. Clerks	1,00,777	4,24,644	4,43,965
3. Sub-Staff	47,754	1,64,925	1,77,857
4. Total:	1,75,368	7,90,483	8,31,877

However, this generation of employment could not provide corresponding better customer service. People at large are of the opinion that the customer service rendered by the banking industry is at nadir. Foreign banks and private sector banks are quoted for better service. Even the computer system introduced recently in this industry could'nt make any dent. "In the case of 'teller system' one could get the payment within a minute on the very same counter. But, after the introduction of computer system one has to wait atleast ten minutes to half-an-hour within which time the cheque has to pass four hands." This is the reaction of the customers in relation to introduction of computers vis-a-vis customer service. Some customers even ushered that introduction of computers made the job of employees easier at the cost of more inconvenience caused to customers in the name of better customer service. Strikes in banks have become common feature these days. It was reported in the press that the banks in the state of West Bengal were closed for 53 days (working days) during this year. Some of the individual banks have gone on strikes at all India level for their domestic problems with respective management. In addition, the current wage revision witnessed two nation-wide strikes by all banks workmen unions and one by officers association this year. The above strikes had penalised the customers heavily without any compensation whatsoever. The blame has to be shared by all i.e. Management, Trade unions, Employees and not the least the Government for being responsible for such strikes.

Suggestions

1. Earlier the better for RBI to appoint a Committee to go into the details of loss making branches so as to ensure that such branches become viable and contribute to the growth of banking industry as well as to the economic development of the nation.
2. With regard to deposit mobilisation, the government should put restrictions on non-banking institutions which have already

(Contd. on page 33)

Housing development finance

Dr. C. Harichandran

Though housing is a basic need, the high prices have kept it at bay for many; particularly the weaker sections of the society. Financing of housing is a serious problem, which the national housing policy aims at mitigating. Government investment in this sector has been on the increase; yet not enough. Hence the role of institutional finance assumes vital importance. The HUDCO, HDFC, LIC and Banks can provide a silent revolution in the process of providing housing finance, the author feels.

THERE IS A MAJOR SHIFT OF EMPHASIS in the economic policy of the country from growth objective to welfare approach and the major goal of the state is social objectives equalisation with regard to basic services like education, health, housing and so on. Education and health are dominantly regarded as investment in human capital essential both in the interest of economic development and equalisation of opportunities. It is only recently recognised that provision of shelter to the people is a productive activity and investment in housing is an essential element in human resource development. In fact investment in housing is necessary as it serves to fulfil several national policy objectives viz. (i) providing shelter thereby raising the quality of life (ii) creating conditions conducive to the attainment of the goals of better health and education (iii) stimulating economic activity (iv) increasing productivity (v) creating substantial additional employment opportunities (vi) improving interpersonal equity and (vii) acting as a strong motivation to generate additional voluntary savings in the country.

During the two decades 1961-70 and 1971-80, the share of the housing sector in National income has been around 3 to 4 percent with some marginal fluctuations. The fixed capital formation in construction of residential buildings as a percentage of the total gross capital formation, at current price has steadily increased from 11.2 percent in 1970-71 to 16.1 percent in 1984-85.

Magnitude of the problem

The shortage of housing is a global problem and even the developed countries are not able to tackle it fully. In fact housing is not only an important basic human need, but a fundamental right of the poor too. Though this is a basic need of all, the landless agricultural workers, scheduled castes and scheduled tribes, village artisans and other economically weaker sections are severely handicapped in having a shelter at affordable cost. Over the years of development effort the formal construction approach has had only limited effect on the housing problem of the poor. Inspite of the fact that the investment on housing in the public sector has increased from Rs. 250 crores in the First Five Year Plan to Rs. 2458 crores in the Seventh Plan, the housing shortage has only increased over the years.

According to 1961 Census, there were 79.2 million dwelling units in the country. It rose to 92.9 million in 1971 and 111.63 million in 1981. The National Building organisation in 1985 estimated the housing stock as 124.9 million units. The housing shortage in the country is estimated now to be 25.6 million units on the basis that each household should have a pucca or a semi-pucca house to live in the urban areas and a pucca, semi-pucca or serviceable kutcha house in rural areas. The number of people living in the open without proper housing who are described as houseless increased from 12.65 lakhs in 1961 to 23.27 lakhs in 1981. On the basis of 1981 Census the estimate of the National Building Organisation revealed that the housing shortage in the rural areas was of the order of 18.8 million in 1985. It is estimated that 57 million houses have to be built in rural areas by 2000 A.D, if there is to be no shortage. Even if it is built at a cost of Rs. 10000 per unit, an investment of about Rs. 57000 crores would be required.

The housing policy

The National Housing Policy announced in May 1988 is a welcome step in this direction. The basic objectives are the following (i) to motivate and help people particularly the houseless to secure for themselves affordable shelter (ii) to promote investment in housing in order to achieve a sustained growth of the nations housing stock, (iii) to create and develop an efficient and accessible system for the delivery of inputs to maximise housing efforts, (iv) to improve the environment of human settlements with a view to raising the quality of life through the provision of drinking water, sanitation and other services.

The policy seeks to accord priority to promoting access to shelter for the houseless and the disadvantaged groups such as; the Scheduled Castes and Scheduled Tribes, freed bonded labour, rural landless labour including artisans, widows, single women and women headed households, economically weaker sections, low income groups, victims of natural calamities etc.

The objectives of National Housing Policy are sought to be achieved by: (i) making available developed land at reasonable rates for housing, (ii) providing security of tenure to house-holds, (iii) developing a viable and accessible institutional system for provision of housing finance (iv) promoting savings and investment in housing by developing suitable saving instruments and providing appropriate fiscal incentives, (v) creating an environment conducive to investment in housing for rental purpose; (vi) promoting research and development of low cost and standardised low cost materials and components and appropriate technologies and designs, (vi) making available standardised building material and components at reasonable prices; (viii) encouraging production of building materials based on local resources and standardised low cost building materials and components, (ix) improving and upgrading construction skills, (x) giving impetus to co-operative and group housing activities as well institutionalising participation of non-governmental organisations, (xi) modifying relevant laws and regulations wherever necessary with a view to removing constraints to housing activity, (xii) creating and strengthening basic infrastructure and services needed for a healthy environment in human settlements and (xiii) developing architecture relevant to the local life styles, keeping in view the traditional human settlements planning concepts and designs.

Financing

Financing of housing has been a subject of serious debate for quite sometime and is going on even now. The major points of discussion were centred around (i) what is the role of the Government ? should the Government emerge as the supplier of houses or should it really serve as the facilitator by motivating the individuals, community and institutions in the process ? The Government is also well aware of the constraints under which the system works and the enormous amount of resources both financial and physical needed for housing the people. Therefore the path of the development now followed is to involve the limited government funds to assist the weaker sections, promote research in low cost housing and to facilitate and promote construction by individuals involving more and more institutional funds. An attempt is made here to briefly bring out the flow of funds to housing sector.

Shift in Policy

With the shift in policy and emphasis the commitment of the state has been changing fast. The states earmark increasing outlays in their development plans for this sector with priority to weaker sections. The expenditure of the Government as reflected in the following data would show that investment under housing is steadily increasing over the years. It can be seen from Table I.

Table I

Investment on Housing

(Rs. crores)

Year	Outlay on Housing and Urban Development
1961-66	127 6
1966-69	73 3
1969-74	270 2
1974-79	1150 0
1979-80	368 8
1980-85	2488 4
1985-90@	2428 2

@ 1985-90 outlay is only for housing sector

During 1980-85 public sector plan expenditure on housing amounted to Rs. 1839 crores. In addition public enterprises are estimated to have spent around Rs. 275 crores on housing. Thus the expenditure on housing through public sector schemes amounted to Rs. 2114 crores. The physical achievement during 1985-90 are given below.

Table 2

Physical Achievements under Government Housing Scheme

Sl. No.	No. of houses/ tenements
1. Subsidised Industrial Housing	72260
2. Low Income Group Housing	63132
3. Middle Income Group Housing	33111
4. Village Housing Projects Scheme	159322
5. Rental Housing	33108
6. Rural Housing	5430000

As regards rural housing and landless labour 0.72 million families were left uncovered in 1980-81. Alongwith the allotment of house sites the scheme provides assistance for construction and it is

targetted to cover 2.71 million families at an estimated cost of around Rs, 600 crores. It can be seen from Table 3 that the states have made increasing commitments on social housing schemes

Table 3

Seventh Plan Outlay on Housing

(Rs. crores)

Sl No	Schemes	Sixth Plan outlays	Seventh Plan outlays
1	2	3	4
	A States and Union Territories		
1	Rural House-site-cum-house construction scheme (MNP)	353 50	576 90
2	Social and Departmental housing schemes	837 37	1276 02
3	Police Housing Scheme		315 42
	Total States/UTS	1190 87	2178 34
B	Central Sector	300 00	289 87
		1490 87	2458 21

Institutional finance

Though the Governmental attention has been increasing in this sphere activity, due to budgetary constraints and other pressing problems the housing shortage and substandard houses have increased over the years. Therefore the role of institutional finance assumes vital importance in this sphere The establishment of National Bank for Housing Development is a laudable attempt As is the case with the National Bank for Rural Development this will be primarily a refinancing agency which in turn will help the involvement of more institutional funds for housing activities. The major institutions involved in housing are HUDCO, HDFC, LIC and Consortium of Nationalised Banks.

HUDCO

Housing and Urban Development Corporation (HUDCO) an apex techno-financial public sector organisation of Government of India, was established in the year 1970-71, mainly to finance housing with prime focus on the economically weaker sections. An analysis of achievements reveal that HUDCO has assisted 5770 projects involving a total loan assistance of Rs. 3100 crores The cumulative achievements by type of schemes is furnished in Table-4. Over the years of HUDCO's involvement, a total of 30.3 lakh dwelling units could be assisted. Of these about 22 lakhs were of economically weaker sections The achievements under economically weaker sections, Low Income Groups, Middle Income Groups, Higher Income Groups and other sources are given in Table-5 The state-wise distribution of loan is given in Table-6.

Considering the massive shortage of housing in rural areas, HUDCO started financing rural housing from the year 1977-78. For the rural landless to whom house sites have been alloted by the State Govern-

Table 4

HUDCO loan sanctioned by type of schemes since inception to 1987-88

(Rs. in crores)

Type of Schemes	No. of schemes	Loan sanctioned
1 Urban Housing Scheme		
Commercial	3837	2097.06
Co-operative Housing Schemes	132	35.24
2 Rural Housing Scheme		
Co-operative	110	80.07
Others	469	351 89
3 Land Acquisition	66	106.42
4 Staff Housing Schemes	395	200 39
5 Slum Upgradation	8	5 21
6 Basic Sanitation	166	34.56
7 Utility and Social Infrastructure	129	71 46
8 Building Material Scheme	21	7 31
9 Package Loan Co-operative	5	23.44
Others	4	11 30
10 World Bank Aided Project	1	31 48
11 Central Govt Employees Scheme Co-operative	13	23 46
Others	14	21 82
Total	5770	3100.89

Source HUDCO

Table-5

Category wise number of Dwelling Units Since Inception to 1987-88

EWS	2237089
LIG	470515
MIG	240941
HIG	76644
Other	5173
Total	3030362

Source: HUDCO

Table 6

Statewise Distribution of Loan by HUDCO

(Rs. in crores)

State	Loan Sanctioned Since Inception	Loan Sanctioned During 1987-88	Loan disbursed Since Inception	Loan disbursed During 1987-88
Uttar Pradesh	419 00	95 00	277 00	80 00
Tamil Nadu	279 00	45 00	194.00	35 00
Kerala	214 00	44 50	132 00	20 00
Karnataka	198 00	43 00	111 00	23 00
Andhra Pradesh	273 00	42 60	179 00	32 00
Gujarat	279 00	38 60	181 00	29.00
Madhya Pradesh	172 00	36 00	76 00	20 00
Maharashtra	276 00	35 00	103 00	21 00
Rajasthan	225 00	31 00	180.00	21 00
Other States & Union Territories	532 00	86 00	306 00	44 00
Total	2866 00	496 00	1809 00	325 00

ment, against unit cost (excluding land cost) of Rs. 6,000, HUDCO provides 95 percent loan assistance at 6 percent repayable in 11 years. If the unit cost excluding land cost exceeds Rs. 6,000 but is below Rs.10,000 the interest rate is 7 percent. In addition HUDCO assists rural families other than landless categories, at subsidised rate as per urban norms. Under this scheme a family with monthly income upto Rs. 700 will get 90 percent loan assistance at 7 percent interest for a house costing upto Rs. 15,000 (including land cost). For the repair of such houses HUDCO will provide loan of Rs.3000 at 8% interest for 10 years.

Under the LIG housing schemes a family with monthly income upto Rs. 1500 will get 85% loan assistance from HUDCO at 9 percent interest for 15 years. If the cost is only Rs. 20,000 the interest will be 8.5 percent. A loan of Rs. 10,000 will be provided to such houses at 9 percent interest for 10 years. The loan assistance from HUDCO for MIG houses costing a maximum of Rs. 1 lakh is 75 percent of the cost. The amount is repayable in 15 years for an interest of 12.5 percent. If the cost is only Rs. 60,000 interest rate is 11 percent For the repair of such houses HUDCO gives loan to a maximum of Rs. 25,000 at 12.5 percent interest to be repaid within 10 years.

HUDCO's assistance to HIG and other category houses costing a maximum of Rs. 2,50,000 is 60 percent at 13 5 percent interest. The amount is to be repaid within 15 years. For the improvement and repair of such houses a maximum loan of Rs. 50,000 at an interest of 13.5 percent will be provided by HUDCO which has to be repaid within 10 years. In addition to the above schemes HUDCO gives loan assistance with a rebate of 1 percent in interest to families affected by natural calamity. A close understanding of HUDCO's financing pattern would reveal that HUDCO does not enter into direct lending. It sanctions shemes of the Housing Boards, Slum Clearance Boards, Development Authorities etc. The loans are sanctioned against government guarantee or institutions nominated by the State Government.

HDFC

The Housing Development Finance Corporation (HDFC) was established in 1976 with a view to build up a specialised institution to channel household savings as well as funds from the capital market into the housing sector. With network of branches spread over the country, HDFC has catered for individual requirements with retail lending thus providing an impetus for the development of more ownership housing. HDFC is also actively co-operating in the promotion of new institutions for housing finance, thereby helping the gradual growth of a country-wide net work of development agencies to meet the enormous task of the country's complex shelter problem.

For financing its schemes HDFC has been implementing several schemes through which household savings have been tapped, directly and indirectly through intermediaries such as banks, insurance companies, mutual funds and through bond issues. Moreover HDFC has been able to mobilise external capital from international institutions, government agencies and non-resident Indians. The latest successful effort of HDFC has been the loan from the World Bank worth 250 million US dollars.

The paid up share capital of the corporation is Rs. 19.96 crores. So far the Corporation disbursed loans worth Rs. 833.68 crores and assisted 2,53,190 units. The year-wise loan disbursements, number of assisted units, cumulative investment etc. is given in Table 7.

Table 7

Operational details of HDFC from 1983-84

Year	Loan approvals	Loan disbursements	No. of units	Cumulative Investment
1983-84	102.88	74.89	27379	665.72
1984-85	134.86	93.24	27645	962 65
1985-86	186.42	145.73	40648	1386.54
1986-87	237.51	175.52	46023	1953 76
1987-88	304.95	235.31	55156	2606 91

HDFC has no involvement in housing for economically weaker sections. The average loan amount ranges from Rs. 20000 to Rs. 3 lakhs and interest varies from 12 to 14 percent. Since HDFC borrows money from international money market and domestic markets at high interest rates lending to weaker sections has not been attempted.

Banks

In recent years banks are giving increasing importance to financing housing. The question obviously is whom do they finance and how they finance ? The Government of India has issued directives that commercial banks should have an active role in the housing sector. Though the directive is very much there, it has not made any break through in individual lending. Banks largely purchase housing bonds of HDFC, HUDCO and other bodies.

Housing should be treated as a priority sector and its investment as an economic investment. Since 80 percent of the housing demand is from economically weaker sections, at least 50 percent of the banks committed amount should be earmarked for weaker sections. If this is done one can estimate that about Rs. 150 crores can flow directly to the weaker sections during 1989-90. To this end the infrastructural facilities and other supporting services to the banks are to be strengthened. Establishing specialised agencies like CAMFIN Homes Limited of Cannanore Bank Could also be thought of. The Union Bank of India, Punjab National Bank and United Commercial Bank have plans to enter into this area. All these would help in ushering in a silent revolution in the continuous process of providing housing finance. ■

Banks and small scale industries

G.R. Sharma

Banks especially National Bank for Agriculture and Rural Development play a predominant role in the development of small scale industries, which make a substantial contribution towards industrial growth. Outlining the several schemes formulated by NABARD, the author says that the National Bank has to lay stress on the development of artisan based industries with a view to arresting the migration of rural population to urban areas by generating more and more non-farm employment opportunities.

SMALL SCALE INDUSTRIES PLAY A SIGNIFICANT role in the development strategy of India's economy, not only because it is employment intensive but also because of the substantial contribution towards industrial growth. This sector accounts for 35% of total industrial production Besides, employment in this sector has estimated to have increased from 96 lakhs in 1985-86 to 101.4 lakhs in 1986-87.

National Banks for Agriculture and Rural Development established in 1982, has formulated several schemes extending credit to small scale sector thro' commercial Banks,cooperative Banks and Regional Rural Banks. To begin with stress was laid on the development of artisan based industries with a view to arresting migration of rural population to urban areas by generating more and more non-farm employment opportunities.

Term loan assistance for production activities

Scheduled commercial banks and State/Central Cooperative Banks can extend financial assistance to individual entrepreneurs, groups of individuals, proprietory/partnership concerns to the extent of Rs. 5 lakhs by way of block capital loan or composite loan including working capital requirements for one operating cycle. The block capital can be for site development, investment in plant and machinery, equipment and tools, etc. All SSI activities approved by Development Commissioner (Small Scale Industries) are eligible for financial assistance under the scheme. Margin of 5% of the investment cost for loans above Rs. 30,000 and upto Rs. 1.00 lakh and 10% for loans above Rs.1.00 lakh will have to be provided. The rate of interest is 12.5% to the ultimate beneficiary and 8% per annum to the financing bank. Repayment period is upto 10 years with a moratorium period of 12 months. Refinance is to the extent of 100% of bank loan and given on automatic basis.

Refinance facilities are extended to banks for financing composite loan to *individual artisans* for the purpose of investment in equipment and tools and working capital requirements covering all SSI activities classified under the 22 broad groups of cottage and village industries and any other industrial activity identified by the DC (SSI). Refinance is provided on automatic basis. The maximum loan per beneficiary is Rs. 30.000. The rate of interest on national Bank's refinance is 6.5% per annum to the banks and to the ultimate beneficiary is 10% per annum. The repayment period is upto 10 years with a moratorium period of 12 months. Refinance is provided to the extent of 100% of bank loan.

National Bank has with effect from 29 June 1987 extended the scheme mentioned at (ii) above to individuals/rural artisan members of PACS/LAMPS/ Primary Industries Societies. The repayment period is from 3-10 years. All other terms and conditions are similar to (ii) above.

The facilities indicated at (i) and (ii) above have now been extended to service-oriented industries which do not have investment in fixed assets exceeding Rs. 2 lakhs and are situated in rural areas and towns with population of one lakh or less. Examples of such units are pumpset repairs, automobile repairs, laundry, xeroxing, etc. For small borrowers, all banks could sanction a composite loan of Rs.30,000 while for bigger borrowers commercial banks and SCBs can sanction a loan upto Rs. 5 lakhs provided the activity is not purely a trading or business nature and there exists sufficient scope for industry in the area. In the case of RRBs, composite loans for small scale

establishments owned by tribals, maximum composite loan of Rs. 5000 to a single individual and Rs. 30,000 in the case of group loans may be sanctioned.

Refinance is given to banks for extending *composite loan to individuals* identified under IRDP and those covered under SC/ST Action Plan of SC/ST Development Corporation of state governments outside IRDP The loan is in the nature of composite loan for investment in equipment and tools and working capital requirements for various ISB activities. Refinance is to the extent of 70% of the bank loan and it is on automatic basis upto a bank loan of Rs. 10000 (net of subsidy) per beneficiary. If the loan amount exceeds Rs.10,000 then the bank will have to take prior approval of National bank for claiming refinance. The rate of interest to the ultimate beneficiary is 10% p.a. and the rate of interest to banks is 6.5% p.a. The period of repayment is 3 to 10 years.

Term loan extended by SCBs for individual members of PACS/LAMPS/FSS and Industrial Co-operatives for investment in equipment and tools for all SSI activities approved by DC (SSI) and the 22 broad group of cottage and village industries are eligible for refinance from National Bank subject to pre-sanction procedure. The maximum loan amount per beneficiary is Rs. 10,000. The rate of interest to the ultimate beneficiary is 10% p.a. National Bank's rate of interest on refinance is 6.5% The repayment period period is 3 to 10 years.

Refinance is provided to commercial banks in respect of term loans/integrated loan given to institutions registered under the Societies' Registration Act, 1860 for investment in plant and machinery and tools, relating to Khadi or those connected with village industries The loan can also be availed of for construction of worksheds, godowns, opening of showrooms and purchase of delivery van truck. The rate of interest to ultimate borrower is 9% p.a. (effective rate will be 4% p.a. on account of interest subsidy of 5% p a provided through KVIC for societies sponsored by them). The rate of interest charged by National bank is 6.5% p.a Repayment period will be 3 to 10 years with a moratorium period of 2 years

National Bank provides refinance to cooperative banks for members of primary handloom weaver's societies as also to powerloom weaver's societies themselves for acquisition of powerlooms. The maximum number of looms which may be acquired by an individual will be limited to 4 and the quantum of loan will be limited to Rs. 25,000 per loom or actual cost, whichever is less. In the case of societies while the ceiling on amount is same as above there will be no ceiling on number of looms provided the total investment in plant and machinery does not exceed SSI limits.

Refinance is provided to commercial banks for extending term loan facilities to *individual weavers registered with Handloom Development Corporations* for acquisition/modernisation of handlooms subject to pre-sanction procedure. The rate of interest is 10% per annum to the ultimate borrower and the period of repayment is 3 to 5 years. Similar facility is available to weaver members of weavers' cooperative societies through cooperative banks.

Term loan refinance assistance is provided to SCBs for financing primary *coir* co-operative societies and to commercial banks for financing individuals for setting up of *defibering units.* Scheduled banks and state/central cooperative banks can extend term loan facilities to individual *sericulturists.*

In order to provide effective link between agriculture and processing activities, the National Bank has extended its refinance facilities to agro-industries covering term loans upto Rs 300 lakhs per unit. Under the scheme, the scope of activities eligible for assistance has been widened to include not only agro-processing (processing for food, frutis, livestock as well as forest produce) but also agro-industrial projects (manufacture of agricultural implements and plant protection equipments/and agro-input manufacturing projects (agro-chemicals, fertilizers, etc.) in individual corporate and co-operative sectors. The loans upto SSI limit are given at interest of 12.5% and beyond SSI limit at 15% p a to ultimate beneficiaries The margin money required is 12.5% and loan period is upto 10 years. Refinance is eligible upto 75% of bank loan

Loan assistance for promotional activities

Refinance is extended to commercial banks and RRBs for financing individual artisans and SCBS for financing individual members of PACS/LAMPS/FSS and Industrial Cooperatives for construction of *worksheds.* Rate of interest to the ultimate beneficiary is 10% p.a and the rate of interest on National Bank refinance is 6 5% p a The repayment period is 3 to 10 years The quantum of loans to beneficiary ranges between Rs 3000 to Rs. 7500. In the case of Industrial Co-operatives a margin of 10% is required

Refinance is provided to commercial banks and SCBs for providing loan assistance upto Rs 10.000 to entrepreneurs/units towards the cost of engaging the services of a consultant for project formulation and implementation where absolutely necessary in cases where the entrepreneurs/units avail of loan assistance under all refinance schemes except in the case of composite loan scheme of Rs 30,000 and scheme for financing worksheds to individual artisans. The margin money of 10% will have to be provided The rate of interest is 6.5% p a and 10% p a to banks and to beneficiary, respectively. Repayment period is upto 7 years The extent of refinance is upto 100%.

Refinance is provided to commercial banks for financing promotional organisations for the purpose of raw material supply and marketing support. The rate of interest is 8% p.a. and 12.5% p.a. to banks and to

the ultimate beneficiary, respectively. Repayment period upto 7 years with a moratorium period of 12 months. The quantum of loan is upto Rs 1 lakh for depots and prevalent cost of delivery van. In the case of emporia the loan amount is Rs. 2 to Rs. 5 lakhs and Rs. 4 lakhs in the case of godowns. The margin money required is 10%.

Refinance is given to commercial banks and RRBs for financing Government/Quasi-Government organisations and voluntary agencies to facilitate organisations of technical and extension services, training facilities, collective purchase/marketing, joint publicity, construction of workshed, etc. The amount of loan is Rs. 3000 to Rs. 7500 per artisan, subject to a ceiling of 25% composite loan and upto Rs. 5 lakhs per activity. The rate of interest is 8% and 12.5% p.a. to banks and to the ultimate beneficiary respectively. The repayment period is upto 10 years with a moratorium period of 12 months.

Assistance to tribal artisans

A special refinance scheme has been formulated for giving financial assistance to tribal artisans in the North-Eastern Region. 1. Preparation of khoya out of surplus milk 2. Collection of fruits, seeds, leaves 3. Limestone burning and lime making bell metal work 4. Earthern pots for social forestry plants 5. Oil extraction from oilseeds of tree origin 6. Coal briquettes 7. Spinning and weaving of woollen items and embroidery work 8 Saw Mill/carpentry etc. Under this scheme, loan eligibility for individuals is upto Rs. 5000/- and for groups of individuals upto Rs. 30,000. The rate of interest to the ultimate borrower is 9% p a. and to the financing bank it is 6.5% p.a. No margin money is required. The rate of refinance is to the extent of 100% of bank loan. Repayment period upto 10 years with a moratorium of 12 months. Refinance is also provided to commercial banks for financing Tribal Development Corporations and promotional agencies in North-Eastern Region for establishing common facility centres.

Short-term assistance for working capital

Refinance is provided to SCBs for extending *working capital requirements* for individual rural artisan members engaged in any of the 22 broad groups of cottage and SSIs for production and marketing activities. The quantum of loan is normally 40% of the anticipated production. The rate of interest from National Bank to Banks is 7% p a. and from the banks to beneficiary, it is 10 5% p.a.

Refinance is provided for financing *individual artisans* by RRBs for meeting their working capital requirements including handloom weavers in the village, cottage/tiny sector industries. The rate of interest on National Bank refinance is 7% p.a. The rate of interest to ultimate beneficiary is as per RBI directives.

Refinance is provided to SCBs for financing *industrial co-operative societies (covered by the 22* broad groups of cottage and small scale industries) for their production and marketing activities. The rate of interest is 7.5% p.a. from National Bank to Banks and 9% p.a. to ultimate beneficiary. The quantum of loan is normally upto 40% of anticipated production.

Promotional and development assistance

Individuals, proprietory/partnership concerns, groups of individuals promotional organisation and industrial coops. availing of financial assistance for investment in plant and machinery, etc. ranging between Rs. 1 lakh and Rs. 5 lakhs are required to provide margin money ranging between 5 and 10% of the loan amount. In the case of such promoters /entrepreneurs/units who have requisite talent and skills of entrepreneurship but find it difficult to provide margin money. the financing banks may grant soft loan assistance for meeting margin money requirements. The amount of assistance is upto 100% of shortfall in promoter's contribution an the extent of refinance is 100% of bank loan. No interest is charged. However, the financing banks may charge service charge of 1% p.a. on the amount of margin money. The repayment period is upto 10 years, after repayment of principal loan. Pre-sanction procedures will have to be followed in this case.

The National Bank provides grants out of R & D fund for upgradation of skills. It has also undertaken on pilot basis the development of farm sector with voluntary agencies. A scheme for assisting voluntary agencies for setting up and running training cum production centre has also been evolved.

Short-term loans

Weavers who are scattered in villages and not in a position to form a weaver's cooperative society can avail of refinance facility through PACs/LAMPS/FSS of which they are members. Refinance to SCBs in such cases is provided at 3% below the Bank Rate and the ultimate beneficiary is charged at 10.5 per annum.

Refinance is provided to SCBs on behalf of DCCBs for advancing loans to primary coir, cooperatives, mats and matting societies for their *production and marketing activities*. The credit limits are sanctioned to primary coir societies on the basis of 75% of anticipated production of husk and 33 1/3% of anticipated production of coir yarn to the mats and mattings societies. The rate of interest to the ultimate beneficiary is 9% per annum.

Short term credit limits are sanctioned to SCBs for financing *central coir cooperative marketing* societies for their procurement and marketing activities. The credit limits are sanctioned on the basis of anticipated sales (40%) during the year. The rate of interest of bank is 7 5% p.a. and 9% to the ultimate beneficiary.

Working capital requirements of *reelers' co-operative societies and twister's cooperative*

(Contd. on page 37)

How rural are our commercial banks ?

Dr. G. Chandrasekar Rao

Nationalisation of the banking system, the regulation of bank credit to priority sector and the upward revision of credit-deposit ratios for rural and semi-urban branches have helped promote rural bias in banking business. The acceleration of this process would serve the cause of rural development not only by retaining rural savings in rural areas but also by attracting savings from non-rural sector, the author feels.

BANKING BUSINESS IN GENERAL AND INDIAN banking in particular, because of the nature of their growth and development, tend to be urban oriented and therefore urban biased. Myrdal emphasised the same point while describing regional imbalances. Studies in many countries have shown how the banking system, if not regulated to act differently, tends to become an instrument for siphoning off the savings from the poorer regions to the richer and more progressive ones where returns on capital are high and secure

The banking system in India has been regulated by the Central Bank through a variety of instruments However, until the 14 banks were nationalised its orientation could not be changed. An attempt is made in this paper to briefly describe the banking developments that have been initiated and the quantitative and qualitative changes in banking business which have been introduced to promote the interest of the rural sector.

Banking system and rural orientation

The All India Rural Credit Survey 1954 reported that the banking system had contributed to hardly one per cent of rural credit because of its urban orientation. It had, therefore, recommended nationalisation of the biggest commercial bank, namely, the Imperial Bank of India. As a result, the State Bank of India came into existence in 1955 with a view to giving a new direction to rural credit by opening more rural branches. The National Commission on Banking, 1972 has also made several recommendations for altering the urban orientation of the commercial banking system. Even before its report was submitted fourteen major commercial banks were nationalised in 1969 and six more were added to this list in 1980 The share of the public sector banks in the total outstanding deposits and credit of the commercial banking system went up to, 90 per cent each, of total banking business.

One of the foremost objectives of take-over of. commercial banks into the public fold was to give a rural orientation and provide credit to the hitherto neglected sectors of the economy and strata of the society. In the field of branch expansion, commercial banks including RRBs opened 262 branches during July 1986 to March 1987 bringing the total branch net work to 53,565 of which those at rural and semi-urban centres worked out to 75.7 per cent Of the new offices opened during the period, 80 5 per cent were in unbanked centres. All these facts indicate the rural penetration of the banking system for the benefit of the rural sector

A marked shift in the direction of bank credit is witnessed during the period between March 1968 and June 1985 During this period, total credit registered an increase of more than fifteenfold, with significant increases in advances to agriculture and allied activities and to small scale industries. During this period, while the share of agriculture and allied activities, small scale industries and wholesale trade in total credit increased from 2.2. percent 6.9 per cent and 17 7 per cent respectively to 17.6 per cent, 13.3 per cent and 19 1 per cent. This trend and progress of bank credit is noteworthy and remarkable by historical comparison. The share of bank credit to agriculture and allied activities even in 1980 was far short of its relative position and contribution. With a view to improving the share of credit going to agriculture and other priority sectors, the target was raised from 33 per cent to 40 per cent during the Sixth Plan Period. The play of market forces which determine the allocation of bank credit has been

mostly regulated by the rules of the planning process. Bank credit which used to be a demand following phenomenon before nationalisation of 14 major banks has tended to be a supply leading phenomenon.

From the point of view of the present analysis it is important to analyse the trends in the mobilisation of rural deposits by the banking system as well as their deployment. The table appended provides the relevant data.

On the eve of nationalisation only 3.1 per cent of deposits were mobilised in rural areas and 1.5 per cent of total advances went to rural areas implying a net outflow of rural savings by the then urban oriented banking system. The urban bias even in rural planning and development had been engendered by a host of institutional factors linked up with colonial and post-colonial legacies. To transform this urban bias and replace it with a rural bias was a long drawn out process and considerable institutional reform was needed. Bank nationalisation in 1969 was a step in that direction. By December 1985 an equilibrium between rural deposits and advances was nearly established preventing the flow of rural savings and after one year advances showed a marginal increase over deposits. During the period June 1969 to December 1986 the incremental advances were higher than incremental deposits by 0.8 per cent. Average deposits and advances per rural branch office have shown a fivefold and eightfold increase respectively between June 1969 and December 1986. In the non-rural segment of banking activity there is a corresponding decrease in the banking variables which gives an inkling of the emergence of rural bias in the banking system.

Credit-deposit Ratio

With a view to reducing inter-regional imbalances as also to check migration of funds from rural areas to urban areas, public sector banks were asked to achieve a credit-deposit ratio of 60 per cent in rural and semi-urban areas separately by March 1979. This target was subsequently extended to private sector banks also. Banks have so far been successful in attaining the stipulated target only in respect of rural branches while they have fallen short of the target in the case of semi-urban branches. The credit-deposit ratio in respect of rural branches of scheduled commercial banks (including RRBs) had improved from 56.7 per cent as on last Friday of March 1980 to 66.3 per cent by last Friday of March, 1986 but slid back subsequently to 65.3 per cent as on last Friday of December 1986. The ratio, however, exceeded the national target by a comfortable margin. It may be observed that bank branches in the Southrn region alone have achieved the national target of 60 per cent both in the rural (99.4 per cent) and semi-urban (65.4) per cent areas. Banks in the Central and Western regions have attained the target only in rural areas. In the North-Eastern region, banks have come close to achieveing the target in rural areas (59.7 per cent) but lagged far behind in semi-urban areas (35.2 per cent). The Northern region and Eastern region lagged behind the target both in rural (47.9 per cent and 53.5 per cent) and semi-urban areas (51.6 per cent and 32 7 per cent) respectively.

State wise the performance both in rural and semi-urban areas was very uneven. In the case of rural areas, while many States/Union Territories like

Distribution of deposits and advances of scheduled commercial banks according to population groups (As on the last Friday)

(Rupees crores)

Population group	June 1969		December 1985		December 1986		Increase (June 1969 to December 1986	
	Deposits	Advance	Deposits	Advance	Deposits	Advance	Deposits	Advance
	1	2	3	4	5	6	7	8
Rural	143	54	11,867	7,637	14,375	9,386	14,230	9,332
Percentage to total	3.1	1.5	13.8	13 5	14 0	14.5	14.5	15.3
Average amount per office	0.10	0.04	0.40	0.26	0.48	0.32	--	—
Semi-Urban	1,024	407	18,085	9,390	21,404	10,985	20,379	10,576
Percentage to total	22.0	11.3	21.1	16.7	20.9	17.0	20.8	17.3
Average amount per office	0.31	0.12	1.71	0.89	2.01	1.03	—	—
Urban	1,209	722	22,106	13,003	26,680	14,631	25,452	13,909
Percentage to total	25.9	20.0	25.7	23 1	26.0	22.6	26.0	22.8
Average amount per office	0.63.	0.36	2.02	1 72	3.46	1.91	—	—
Metropolitan	2,287	2,426	33,807	26,295	40,156	29,675	37,869	27,249
Percentage to total	49.0	67.2	39.4	46.7	39.1	45.9	38 7	44.6
Average amount per office	1.83	1.62	6.43	3.90	7.50	5.54	—	—
Total	4,665,	3,609	85,896	56,326	1,02,625	64,677	97,960	61,068
	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)
Average amount per office	0.57	0.44	1.63	1.07	1.92	1.21	—	—

Note: The data for December 1985 and December 1986 are provisional

Source: Banking Statistics—Volume 1 for June and Quarterly Return on Aggregate Deposits and Gross Bank Credit for Decmber 1985 and December 1986. Banking Statistics Division, DESACS, R.B.I.

RBI, Report on currency and finance 1986-87, Vol. I. P. 176.

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Agricultural loans: menace of overdues

Dr. Balishter

The author here presents a critical analysis of the problem of the non-repayment of agricultural loans taken from banks with special reference to the Agra Division of Uttar Pradesh. The author, while lamenting that in some areas farmers do not repay the bank loans inspite of having repaying capacity suggests measures to eliminate the local influence in respect of wilful defaulters, like debarring them from getting further advances.

WITH THE TECHNOLOGICAL BREAKTHROUGH in agriculture during mid-sixties the demand for farm credit has increased manifold and it was realised that despite considerable expansion of cooperative sector it would not be able to meet the expanding needs of agriculture. Government, therefore, decided to adopt "multi-agentyj approach" to agricultural finance and directed the commercial banks to finance agriculture. The nationalisation of fourteen major commercial banks in July 1969 was an important land mark in this direction. Since nationalisation, the commercial banks have been prompt in taking up the challenge of financing agriculture. The amount of agricultural advances was only Rs. 162.33 crores in June 1969 which constituted only 5.41 per cent of the total bank advances. It shows that agriculture sector, which accounted for half of the national income was almost entirely neglected by the commercial banks in respect of providing finance. But after June 1969, there has been a considerable rise in bank advances to the farm sector The level of agricultural credit of the public sector banks, which stood at only Rs 162 crores in June 1969, reached the level of Rs. 8738 crores by December 1985, and the number of borrowal accounts registered spectacular increase from less than 2 lakhs to nearly 160 lakhs Agricultural sector now claims 16 9 per cent of the net bank credit, as against a negligible share of 5 4 per cent in 1969. The share of commercial banks to total institutional credit increased from about 20 per cent in 1969 to about 36 per cent in 1976 and further to about 55 per cent in 1984.

The total agricultural advances by the commercial banks increased from Rs 268.65 crores in 1973 to Rs. 2327.59 crores in 1981-an increase of about 8 times over 1973 The share of marginal and small farmers in total agricultural advances increased from about 27 per cent in 1973 to about 37 per cent in 1981 This clearly indicates the progress made by these banks in meeting more fully the credit requirements of the marginal and small farmers.

Non-repayment

In spite of this contribution made by the commercial banks to agricultural advances, the problem of non-repayment of their loans by the farmers has become a cause of serious concern to these banks The recovery of agricultural advances by commercial banks at the end of June 1983 stood at 53.2 per cent which slightly declined to 51.6 per cent by the end of June 1984. This is particularly disturbing in view of the two successive years of good harvest that the country had reaped Though the recovery is higher (about 59 per cent) in case of crop loan as compared to investment loan (about 45 per cent), in either case it cannot be considered as satisfactory.

It is disturbing to note that 'old' overdues (exceeding 3 years) of commercial banks went up from Rs. 130 crores (29.1 per cent of total overdues) at the end of June 1979 to Rs. 233 crores (32.3 per cent of total overdues) at the end of June 1985. The inadequate recovery* of loans only inhibits the banking system to recycle the funds, as non-repayment of bank's dues by a section of agricultural borrowers would only mean denying the benefit of bank advances to other agricultural borrowers. The lack of recovery also cripples the credit institutions' capacity to draw refinance from the NABARD because banks eligibility criteria in this respect is now linked with their recovery performance. If the overdues increase out of proportion the loanable resources at the disposal of credit institutions would dry up thereby bringing down the pace of agricultural development. Thus mounting overdues in banks can paralyse the country's agricultural credit structure designed for increasing agricultural productivity. The deteriorating situation in banks arising out of non-repayment of loans has not received the attention it deserved. A thorough investigation of the various aspects of the problem of default in repayment of bank loans is of utmost importance both for policy makers and the banks with a view to take corrective measures.

Methodology

The study is confined to Agra Division of Uttar Pradesh which comprises five districts viz., Agra, Etah, Mainpuri, Aligarh and Mathura A district-wise list of demand, recovery and overdues of loans of commercial banks was prepared. The one district having the maximum percentage of overdues and the other having minimum percentage of overdues were selected for this study. Thus Aligarh, which had minimum percentage of bank overdues and Etah which had maximum percentage of bank overdues were selected purposively In each selected district blockwise data on demand, recovery and overdues of bank loans were collected Then one Block having maximum percentage of bank overdues were selected from each district. Then one Block having maximum percentage of bank overdues was selected from each district Thus Mursan Block from Aligarh district and Jalesar Block from Etah district were selected for this study. Then 10 villages in each block were selected at random In selected villages of each block a list of defaulters of agricultural loan obtained from commercial banks as on 30th June, 1982 was obtained from the office of the banks. In the sample villages the total number of defaulters (farmers) of commercial banks was 89 in Mursan Block and 118 in Jalesar Block. These defaulters were categorised as small (upto 2 hectares), medium (2-4 hectares) and large (above 4 hectares) on the basis of their owned holdings; their number in respective categories being 57,29 and 3 in Mursan Block and 10, 9, 7 and 2 in Jalesar Block. The cases were selected on the basis of probability proportional to total number of cases. In all 24 defaualting farmers consisting of 13 small, 8 medium and 3 large were selected from Mursan Block and 32 defaulters (farmers) consisting of 23 small, 7 medium and 2 large were selected from Jalesar Block. The data from the sample defaulters were collected by survey method through personal interview with the help of schedules and questionnaries for three agricultural years from 1982-83 to 1984-85.

Socio-Economic Characteristics

The average size of family is larger in case of Jalesar Block (7.12 persons) as compared to Mursan Block (6 79 persons). It is further to note that average size of family in Jalesar Block is larger both in small and large size group in comparison to Mursan Block but almost equal in medium size groups in two Blocks. The number of family members per hectare of land was 2 74 in Mursan Block and 3.17 in Jalesar Block indicating a greater burden of population on land in the latter. The level of education is higher in Mursan Block as compared to Jalesar Block. In terms of assured irrigation the farmers in Mursan Block were better than their counterparts in Jalesar Block. The degree of commercialisation, intensity of cropping and average yield per hectare of important crops were higher in Mursan Block than in Jalesar Block.Per farm as well as per hectare value of farm assets was much higher in all farm size groups in Mursan Block than their counterparts in Jalesar Block. This brings out the fact that farmers in Mursan Block were much better in economic status as compared to their counterparts in Jalesar Block. Thus the comparison between the sample farms of Mursan Block and Jalesar Block, with regard to their various socio-economic characteristics shows that the overall farm situation in Mursan Block is better than the Jalesar Block, which may influence the repaying capacity of the borrowing farmers and ultimately the repayment of their loans

Overdues according to size of holding

The average per farm family, amount of bank loan overdues as based on three years average (1982-83, 1983-84 and 1984-85) worked out to about Rs. 1336 in Mursan Block and Rs. 2492 in Jalesar Block. Sizewise analysis revealed that average amount of overdues per farm family is quite high in all farm size groups in Jalesar Block than their counterparts in Mursan Block

It is to note that the overall percentage of overdues to demand was about 40 per cent in Mursan Block and 73 per cent in Jalesar Block. It is further revealed that percentages of overdues were quite high in all farm size groups and during all three years under reference in Jalesar Block than in Mursan Block. The overdues grew over years in two Blocks, both in terms of absolute amount and also as proportion of the total amount repayable.

Repayment capacity

The problem of overudes may be either because of

inadequate repaying capacity of the defaulting farmers or wilful default in repayment. The repayment capacity is defined here as the excess of income over expenditure. Income from crops was worked out by deducting cost of inputs from the gross value of crop output. Similarly income from dairy was estimated by deducting maintenance expenses from total income from dairy Income from other sources was also added The repayment capacity has been assessed by deducting family living expenses from total income. The repayment capacity of defaulters in different farm size groups in Mursan Block shows that the average repayment capacity works out to about Rs. 11058 and the total amount of loan payable to about Rs 2620 including Rs 1522 on account of commercial bank dues. Thus on the whole the repayment capacity of defaulting farmers is quite in excess to the loan repayable but they repaid only a part of it. Size-wise analysis shows that small, medium and large farmers have a repayment capacity of about Rs 3791, Rs 14992 and Rs. 32065 respectively against the total repayable loan amount of Rs 2284, Rs. 3050 and Rs. 2934. Thus it is obvious that though farmers of all size groups have repayment capacity quite in excess to the loan repayable, they repaid only a part of it.

The repayment capacity of defaulting farmers in Jalesar Block shows that the average repayment capacity in Jalesar Block works out to about Rs 1963 and the total amount of loan payable to about Rs.4166 including Rs 2652 on account of commercial banks dues. Thus on the whole the sample farmers do not have capacity to repay the total loan overdues. Size-wise analysis shows that small and medium farmers do not have capacity to repay loan payable while large farmers have repayment capacity in excess to the loan payable. The farmers repaid a very small amount of bank loan payable

Thus it is obvious that the repayment capacity is higher in all farm size groups in Mursan Block than in Jalesar Block. It is important here that farmars in all size groups repaid mainly, the loans availed from the private agencies due to the pressure from the lender, a higher rate of interest payable on such loans and to keep open this source for future supply of credit

Wilful and non-wilful default

Wilful default means non-repayment of loan inspite of adequate repayment capacity while non-wilful default means non-repayment of loans due to inadequate repayment capacity. Of the total 24 defaulters in Mursan Block 18 or about 75 per cent are wilful defaulters. Size-wise analysis revealed that about 64 per cent small farmers, 95 per cent medium farmers and cent per cent large farmers are wilful defaulters. Of 32 defaulter farmers in Jalesar Block only 10 or about 31 per cent are wilful defaulters. Size-wise analysis revealed that about 84 per cent of the defaulters in small size group and 61 per cent in medium size group had defaulted becuase they did not have enough income to repay the loan (non-wilful), whereas only about 19 per cent of large farmers did not repay the loan because of this reason. On the other hand, about 81 per cent of the defaulters in the large farm size group did not repay the loan deliberately (wilful), whereas this percentage in case of small and medium size groups were 16 and 39 per cent respectively. Thus malpractice of wilful default is mainly confined to large famers.

Thus it may be inferred that bulk of defaulters in all farm size groups in Mursan Block were wilful defaulters while bulk of the defaulters in Jalesar Block defaulted because they did not have enough income to repay the loan (non-wilful).

Reasons for wilful default

In all, six reasons were identified on the basis of response given by 18 wilful defaulters in Mursan Block and 10 wilful defaulters in Jalesar Block. Each wilful defaulter was asked to report only the most important reason out of six reasons The analysis showed that slackness on the part of banks to insist on timely recovery is the most important reason of non-repayment of loans Diversion of income for purchase of land or other property or other purposes, motivation by a few people not to repay the loans as they will be written off, fear of not getting fresh loans after repayment of overdues, no botheration about legal action are a few more reasons

Reasons for non-wilful default

Of the 24 defaulters in Mursan Block 6 or about 25 per cent were those defaulters who did not have repayment capacity to pay loan overdues of the banks. In Jalesar Block of the 32 defaulters 22 or about 69 per cent were those who did not have capacity to repay bank loans. The analysis showed that low crop yield was the main reason for non-repayment of loan. Low crop yield, low non-farm income, high prices of inputs but low prices for out-put, rigid terms of repayment, delay in disbursal of loan are a few other causes for non-wilful default. It is important here that low crop yield and crop failure due to national calamities are the most important reasons for non-repayment of bank loans by the farmers in both the blocks

Conclusion

The main conclusions that emerge from this study are as under :– (1) The comparison between the sample farms of Mursan Block and Jalesar Block, shows that the overall farm situation in Mursan Block is better than the Jalesar Block, which influences the repaying capacity of the borrowing farmers and ultimately the repayment of their loans. (2) The extent of overudes problem is more serious in agriculturally backward block than in agriculturally progressive block. The overdues got accumulated year after year during the period under reference in all farm of both the Blocks which is a matter of serious concern to all engaged in institutional finance for agriculture. (3) It is

sad comment on the state of affairs that the farmers do not repay the bank loans inspite of their paying capacity. They mainly discharge the other loans from private agencies for different reasons such as high rate of interest, the pressure from that agencies and to ensure future supply of credit.

In Jalesar Block on the whole the farmers do not have adequate capacity to repay the total loan. Size-wise analysis revealed that small and medium farmers have a poor repayment capacity, it being only about 24 per cent and 45 per cent respectively. The large farmers, however, have a repayment capacity quite in excess to the loan repayable.

Thus it is apparant that default in repayment of loan in agriculturally backward block is mainly because of inadequate repaying capacity while in agriculturally progressive block it is in the nature of wilful default

It may be inferred from the analysis that tendency of wilful default in repayment of loan increases with the increasing flow of institutional finance for progressive agriculture. It is a matter of serious concern that the farmers do not repay their loans inspite of their paying capacity

The tendency on the part of the bank officials not to insist for timely repayment has emerged as an important reason for wilful default in repayment of bank loans It indicates either inefficiency or deliberate connivance or both on the part of bank officials and this must be taken note of by the bank administration to gear up their machinery for timely recovery of their loans Enacting and enforcing suitable legislative measures in respect of such wilful defaulters who either divert the funds for purchase of property or for loaning to others will be another step to improve the position of repayment of loans Measures should also be taken to eliminate manipulative local influences in respect of wilful default in repayment Such defaulters may be debarred from loan advances for future

A set of liberal measures should be adopted particularly in agriculturally backward areas where repaying capacity is quite weak These measures should include extending the repayment period over a reasonable time, conversion of accumulated crop loan overdues into medium term loans, waiver of penal interest and making adequate loan available in time. Besides, measures for improvement in crop yields, remunerative price for the crop products, reasonable subsidies on input prices and crop insurance are also necessary to enhance the repayment capacity of the farmers To reduce the overdues of these farmers, particularly small farmers, steps should be taken to increase their income by providing assistance to start subsidiary enterprises like dairy, poultry, cottage industries, etc.

The problem of old overdues need to be solved immediately once and for all. The old overdues have posed plenty of problems and if not solved effectively it would continue to pose problems in the issuance of future loans. In order to effect recovery of the old overdues, of non-wilful defaulters, action be taken to write off these loans partly or wholly depending upon the merits of the cases to be assessed by a high power body after careful scrutiny of each cases. ■

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emerged as the biggest rival to Commercial banks This will pave way for blocking the transfer of deposits taking place from bank's to such non-banking institutions. The restrictions are also necessitated because of the fact that investors have been cheated, by and large by such unscrupulous institutions. In addition, RBI should take stringent action against those banks which indulge in unethical methods for boosting the deposits.

3 With regard to the problems of recovery, the government should at the earliest enact central legislation for recovery and creation of special tribunals. The said tribunal may be a Three-Tier-Form with one each at district level, state level and national level.

4 With regard to better services to customers, the Bank's managements, trade unions and associations, and employees should realise the fact that they thrive only at the mercy of customers The training inputs should also include aspects such as human psychology, work ethics, dedication, integrity, honesty etc In addition, depending upon the practicability, the Indian Banks Association in consultation with respective banks may institute a system by which the services rendered by the employees are judged by the customers (this is very important) to whom such services are rendered, and such appreciation is considered for future promotion and transfers

Conclusion

In the end, one can easily conclude that the banking industry during the two decades of nationalisation could not make much headway except creating employment opportunities for more than half a million persons that too without providing corresponding improved services to the customers If one tries to calculate the overall growth rate of the banking industry on the above explained lines, with making further allowances to increasing frauds and corruption taking place, and misutilisation public money, he may arrive at a negative growth rate; thanks to the economists and growth experts for not having discovered such model If the present trend continues without any change, perhaps, the banking industry may become a white elephant by the turn of this century. ■■■

Banking Industry; challenges and strategies

Dr. T.N. Upadhyay

In the light of the all round growth of the banking industry since nationalisation, the author here analyses the various challenges being faced by the industry and presents certain measures/ strategies to confront and solve them. Banks should face these challenges with vigour and determination so that the industry can fare better in meeting the socio-economic objectives of the Government.

THE FOCUS OF INDIAN BANKING IN recent years has shifted from class banking to mass banking, from elite banking to social banking and from urban-based to rural-based banking. There has been unprecedented growth and diversification in commercial banking and in the size and the sweep of the banking industry in India. It has been stupendous that it has no parallel in the annals of banking anywhere in the world During the last 20 years since 1969, tremendous changes have taken place in the banking industry.

It is an undisputable fact that banks in India have successfully achieved the targets for branch expansion, priority sector lending and deposit mobilisation. The massive geographical expansion at a rapid pace and explosive growth of business have brought severe stresses and strains on the banking system that are reflected in the erosion of quality of customer service and pressure on profitability etc.

Here a modest attempt has been made in this article to identify the various challenges that are being confronted by the banking industry in India along with certain strategies to solve them.

It is commendable to note that the banks have successfully made an all out effort to respond well to the demands made upon them for fulfilling social obligations While discharging its role, the banking industry has been confronted with many stresses and is experiencing several changes.

Since the banks have grown sizably and are shouldering soical burden on an increasing scale It is necessary to gear them up to face these challenges in an effective manner Against these back ground, some important issues pertaining to the banking industry have been studied here.

Deposit growth

The ability of banks to serve the multitude clientele primarily depends on the growth of deposits. The banking system in India is facing the challenges on the deposits mobilisation front in view of the severe competition from various financial institutions and public corporations

The stiff competition being experienced by banks in this respect could be ascribed to the attractive earnings concessions reaped from investments other than bankdeposits. The schemes of Unit Trust of India and ther financial institutions severely affect the deposit mobilisation efforts of banks. Indira Vikas Patra is the latest example in this context The interest earnings on these Patras and Postal Savings, as compared to bank deposits, are considerably higher.

It may be observed that, except opening more than 60 per cent of the total branches in rural areas, not much progress has been made by rural branches with regard to deposit mobilisation. This view has been endorsed by the Estimate Committee of Lok Sabha.

Further, the provision of infra-structural facilities is generally not adequate to meet the growing requirements of the banking sector and many financial intermediaries are offering innovative schemes against bank's efforts at resource mobilisation. The competition faced by banks in

mobilising resources is increasing with the emergence of several new series of saving schemes of the country.

Expansion of branches

The branch expansion policy of the RBI continues to give priority for opening of branches in rural areas which has posed a challenge to the banking industry in so far as their yiability and profitability.

The banking industry appears to have noted these factors and now the emphasis is on consolidation of the existing branches rather than proliferation of the number of rural branches. The expansion of branches in urban areas is expected to be restrictive in the years to come.

Provision of credit

The available funds at the bank's disposal are canalised as per the directions of the Central Government and the RBI. There is no correlation between the supply and demand for funds. While on the one hand, the inflow of funds into the banking industry has been slowing down, the demand for bank funds has been mounting from all sides— from the government, public and private sectors and even from the common man.

It may be observed that credit has been flowing to various sectors of the economy not on the basis of any economic criterion. The distribution of credit between various sectors and regions is important to ensure balanced regional economic development. The growing demand for credit from the industrial sector in the context of the liberal licensing policies is exerting pressure on the banking systems

Under present conditions, consumer durable goods industries, medium and small scale industries have been finding it difficult to secure adequate finance from banks. Getting working capital is also becoming a problem to these industries.

Revision in SLR and CRR

The availability of resources after meeting the statutory requirements constitute the total resources which banks can deploy in the form of credit. Banks are facing several challenges on the credit front. In a bid to raise more funds to finance the development plans, the government usually resorts to mopping up a large amount of the resources mobilised by banks through statutary liquidity ratio (SLR) and cash reserve ratio (CRR) with the objective of pursuing price stability and maintaining liquid funds.

There has been a tendency towards frequent revisions in SLR. The SLR, which was about 35 per cent in 1981 has been gradually raised to 38.5 per cent. It may be noted that at the current level of deposits even a hike of one per cent in this ratio could increase the availability of funds for investment in government securities ranging between Rs. 900 to Rs. 1000 crores. The figure will further increase with the growth of deposits.

About 49.5 per cent of the total deposits (11 per cent of CRR+38.5 per cent of SLR) of the banking industry are impounded and can not be deployed on commercial lines. Further, the yield on the impounded funds is very low as compared to the yield on deploying these funds on a commercial basis.

Deployment of funds

Banks do not enjoy the freedom in the deployment of funds left with them after meeting the demands of about 49.5 per cent as mentioned earlier. The balance of 50.5 per cent of the resources are deployed in priority sectors-food credit, medium and large scale industries, whole-sale trade, exports and other neglected sectors etc.

The banks have a deployment of not less than 40 per cent of the total advances to priority sectors, (latest estimates indicate that this-figure is hovering around 43 per cent for banks) Ultimately, the banks are left with not more than one third of the deposit resources for lending to the organised sector of the industry.

The tenable resources of banks are supplemented by refinance. The purpose of refinance by monetary authorities like the RBI, and NABARD is largely directed towards encouraging the flow of credit to the preferred sectors of the eocnomy. Because of the refinance facility, banks are able to maintain an average credit-deposit ratio of around 68 per cent after meeting the SLR and CRR needs. The refinance liability of banks has been increasing in recent times and this would be a great challenge for banks.

Declining profitability

It may be pointed out that the rapid branch expansion has affected the earning capacity of the banking system. It is proved beyond doubt that the opening of branches in rural and semiurban areas is uneconomic A branch in rural areas is initially a deposit centre and it does not lend sufficientlly, it fails to earn income commensurate with the expenditure on it The earning of banking industry are under pressure as a result of the administered rates of interest and a rise in servicing costs following an increase in the number of accounts. Added to it the rise in SLR and CRR in respect of FCNR deposit liabilities are likely to affect the profitability of commercial banks

The profitability of banks has also declined owing to the immobilisation of deposits, larger investment in government and approved securities, delays in securing prompt repayments against loans granted to various categories of borrowers.

Overdues

Another area where the banking industry faces a tough challenge relates to the overdues and locking

up of funds. The locking-up of huge funds (1/5 th of total bank credit) in sick units and mounting agricultural overdues (about 50 per cent) in rural areas have adversely affected the capacity of banks to recycle their funds in productive manner. It is reported that, out of the total 93971 sick units in the country, as many as 75860 are reportedly non-viable, The problem of over dues in agricultural advances is causing a great concern in the banking industry. The recovery of agricultural advances has been deteriorating over the years, despite a substantial increase in agricultural production. The rate of recovery in the case of commercial banks is 45 per cent and is 50 per cent in the case of rural co-operatives and 50 per cent as regards to the regional rural banks.

Rural credit needs

Despite having a multi-agency approach to rural credit, the credit needs of the rural household are to be met by the banking system Inspite of the fact that there have been widespread banking operations, the stronghold of money-lenders in the rural areas still exists. Though amount of credit to rural areas has increased by nearly 80 times, only 14 per cent of the rural household were so far covered

The IRDP is the single largest scheme presently being implemented in over 5000 blocks for providing direct assistance to the poorest of the poor in rural areas, with subsidy from the government By the end of the Seventh Plan Period, 20 million households are likely to be assisted under this programme.

Banks are expected to assume a variety of new responsibilities in the eighth five year plan period The NREP, RLEGP and IRDP programmes will undoubtedly put tremendous pressure on the banking system in the country Therefore, banks are yet to go a long way in catering to the needs of rural areas. Further, there has been a criticism that the benefits of rural schemes are not reaching the rural poor.

Deterioration in customer service

The sheer pace of branch expansion, especially in rural areas, has affected the quality of customer service and led to the problem of motivation in the staff. Customer service today, is characterised by delays, negligence, errors of ommission/ commission, indifference and impolite behaviour of the staff and scant attention paid to genuine needs of the customers etc.

Bad house keeping, considerable delays in balancing of books and reconciliation of inter-bank transactions would often help the unscrupulous bank employees to defraud the banks The inspection and audit arrangements in banks apear to have proved ineffective and inadequate The customer discontent has further escalated owing to the recent hike in service charges in banks without any perceptible improvement in customer service.

Strategies

A few of the challenges briefly explained earlier are indeed formidable and the banking industry has to respond to them in a creative and strategic manner The following are some of the measures suggested to combat the challenges faced by the banking industry.

It is widely believed that there is an urgent need for consolidating the gains of the banking industry. The expansionary phase started since 1984 has brought into focus the need for consolidation rather than further expansion

Such consolidation should be done with specific objectives of achieving better operational efficiency and better recycling of bank resources through improved recovery of advances This requires certain basic changes in the lending policy that would help the banking industry to face the challenges.

Since an over-whelming majority of branches have been opened in rural areas, considerable scope exists for exploiting the deposit potential in rural areas Rural branches should have adequate publicity and door to door convassing among prospective target groups for mopping up of deposits It is obvious that under the present conditions of inflationary pressure and expansion in money supply and branch expansion, there will be definite influence on the growth rate of deposits in the coming years provided the banking industry formulates attractive innovative schemes for deposit mobilisation suiting to different segments of the population in rural areas

The future emphasis should be on consolidation of existing branches rather than proliferation of branches The new branch licening policy covering the period from April 1985 to March 1990 seeks to provide banking facilities in deficient rural areas where identifiable gaps exist Steps should be taken towards rationalisation of the branch network in the country

This does not mean that there should be no further expansion of branches in the country but such expansion should be carefully planned and should be directed towards providing every block with at least one branch office

Banks can increase the credit in the country provided the RBI considers a downward adjustment in the interest structure, revising the reserve ratios and rationalisation of selective credit controls. It may be pointed out that there is a lack of close co-operation between the banks and other financial institutions This aspect seems to be vital in tackling the credit requirements of industrial units

For an effective functioning of the institutional structure, it is desirable that banks and financial institutions make an assessment with regard to the working capital requirements of new and on–going units. Further, banks may sanction credit limits based on term lending institution assessment and also exercise control at the credit utilisation stage.

Banks should no longer continue to play the role of passive purveyors of credit, but should play a more active role and pay adequate attention to the qualitative aspects of production and marketing strategies of the borrowers. Banks have made fair progress in the Lead Bank Scheme in the formulation of district credit plans but a great deal needs to be done to give operational content to these plans in the years ahead.

Profitability

If the commercial banks are to sustain their profitability at a reasonable level in the coming years, certain endogenous factors have to be effectively addressed, particularly those concerning internal structure, house keeping, prompt-recovery, and funds management. It is suggested that an increase in the interest rates of impounded balances and higher average yield on fresh investments in gilt-edged securities would improve the profitability of banks.

Improving the quality of loan assets and timely recovery of dues are two important areas to which increasing attention will have to be paid. Adequate lending in semi-urban and rural areas by assisting priority sectors like agriculture and allied activities at the rural branch would help in improving profits with some social purpose Further, a rationalisation of the interest structure through a measure of deregulation would considerably augment bank's earnings on their assets portfolio.

Serious thought should be given to reducing the operational costs. Rural branches take considerable time to reach break-even point. The lack of infrastructure, delay in improving deposits in rural areas, poor recoveries and high establishment costs are the main factors responsible for the delayed attainment of break-even level.

It may be suggested that the loss making rural branches be converted into satellite branches to make them profitable. Better management of cash and funds position could also contribute to some improvement in this regard.

Better recovery of credit

A better environment should be created for recovery of bank credit from borrowers in rural areas and from potential viable sick units as well. Banks and the governments, especially at the state level, must strive to create and maintain an atmosphere conducive to financial discipline and recovery of dues.

It is reported that the central government is thinking of giving more legal powers to banks to enable them to recover their advances. This measure is expected to give a boost to the recovery drive of banks.

Staff training plays an important role in the implementation of a series of anti-poverty programmes involving huge investments. Staffing at village branches should be selective. Instead of posting city-bred people in these branches, it would be better if banks post the people who have the knowledge and interest for rural development.

In recent years, banks have initiated several measures to improve customer service by creating customer cells in metropolitan centres for attending customers complaints promptly. Many banks have been diversifying their activities with active participation in merchant banking business, promotion of subsidiaries and launching of mutual funds.

Banks may introduce loan-linked deposit schemes for mopping-up of funds. This scheme is found imperative to lure the non-bank savers who usually keep their savings in post offices, LIC and chitfunds etc.

Despite many constraints, banks have been doing commendably well in meeting the socio-economic objectives of the government. They are likely to face many more challenges in the times to come. Banks should accept these challenges with vigour and determination. ■■■

(Contd. from page 27)

societies are eligible for refinance from National Bank. The credit limit is to the extent of 40% of the anticipated production in the case of reeling of silk and it is to the extent of 10% of the anticipated production in the case of twisters' cooperative societies. The rate of interest to the ultimate beneficiary is 9% p.a.

The National Bank ensures adequate credit support for the collection and marketing of minor forest produce by adivasis and scheduled tribes. The collection/marketing of only such of the types of minor forest produce that are non-perishable in nature and fast moving are to be associated. Any other item of minor produce identified by the Tribal Development Corporation/Federation operating in a state could also be eligible for refinance facilities from National Bank. The financing banks while extending loans to marketing societies/Cooperative Tribal Development Corporations have to observe the usual norms and safeguards regarding margin money, custody etc. as prescribed in the case of other marketing advances against pledge/hypothecation of stock (i.e. loan not to exceed 75% of aggregated value of stock in the case of pledge and 60% in the case of hypothecation advances). ■■■

(Contd. from page 9)

a fundamental change in the credit portfolio of the banking industry. They have not only assisted in the provision of gainful employment to lakhs of farmers, craftsmen, self-employed people, etc., but also in prevention of unemployment which would result from the closure of industrial units from want of credit. Besides, through their support, they have helped in the growth of agricultural and industrial output. It is worth noting that the responsibility of being the lead bank under the Lead Bank Scheme has been almost exclusively shouldered by the banks in the public sector.

Social Objectives

The growth in the volume of credit extended to borrowers in the priority sectors, for the nursing of sick/weak units and for food procurement and similar supportive purposes, reflects the extent to which the public sector banks are involved in meeting the social objectives of nationalsation Because of such lendings, the ratio of credit to large industries/ business has come down substantially Besides, through policy guidelines issued under the Credit Authorisation Scheme, the quantum of credit to larger borrowers has been regulated Other directives/instructions have also been issued from time to time for limiting the credit against commodities which are subjected to speculative dealings and for ensuring the proper end-use of funds While these policy measures are applicable to all banks, the predominance of public sector banks has rendered their implementation easier Over the years, the management styles, organisational structure, personnel policies, etc, of the 'nationalised' banks have been suitably streamlined, resulting in fewer complaints of favouratism, nepotism, wastage, etc At the same time, the reorientation in lending policies of banks has resulted in providing more employment opportunities to lakhs of people and helping large sections of rural population to increase their earnings Thus, the social objectives of 'nationalisation' have also been met.

Conclusion

It will be evident that the banks have succeded in fulfilling the objectives of 'nationalisation' but the endeavours have to continue as we have a long way to go in uplifiting the economic conditions of a large segment of our people to reasonable levels Basically, banks are one of the instruments for economic growth and the impact of their efforts would also depend upon the contribution of and co-ordination with the other agencies involved. The unprecedented growth in size and activities of the 'nationalised' banks, has resulted in certain operational constraints, which have prevented them from showing better results It is represented that in certain areas, such as, recovery of advances, customer service, productivity etc., the performance of these banks could have been better but these should be considered as problems of growth rather than as deficiencies which diminish the overall merit of their efforts in the last two decades. On the whole, the 'nationalisation' of major banks has proved to be a move in the right direction. ■■■

(Contd. from page 17)

Secondly, the RBI should make sure that the private sector banks fall in line with the rest of the banking system in following the guidelines of the service area approach with immediate effect It may have to think of imposing some penalties for violation of instructions in this regard Thirdly, the RBI should quickly think of substitute arrangements in areas where the RRBs are totally or partially disabled in terms of extending further financial assistance even for the target groups. Finally, but more importantly, the RBI should make sure that theBLBCs get adequate support from the state governments as many of the States have already advised that they are not inclined to replace the existing forums of coordination at the Block level They are not happy over a banker presiding over the BLBC In effect the RBI should get down to the implementation of the whole service area concept in different directions ■■■

(Contd. from page 29)

Himachal Pradesh, Jammu & Kashmir, Punjab, Delhi, Arunachal Pradesh, West Bengal, and Goa, Daman and Diu had credit-deposit ratios less than 40 per cent. Only 15 States/Union Territories exceeded the 60 per cent target. In the case of semi-urban offices, while 12 States/Union Territories had credit-deposit ratios less than 40 per cent, only 6 States/Union Territories exceeds the target

Conclusion

Since 1969 the functions and working of the banking system are regulated by the Reserve Bank for securing the goals of economic growth, and social jutice Since a major segment of primary poverty is perisisting in the rural economy, a deliberate attempt is made through reform of the credit institutions to alleviate rural poverty Nationalisation of the banking system in 1969 and 1980 and the regulation of bank credit to priority sector and the upward revision of credit-deposit ratios for rural and semi-urban branches have gone a long way in transforming demand following phenomenon of banking into a supply leading one. A rural bias is promoted in banking business as may be seen from the growing share of rural branches in the total branch net work The acceleration of this process during the current and ensuing plan period would serve the cause of rural development by not only retaining rural savings in rural areas but also attracting savings of non-rural sector. Then only rural banking would become viable and even profitable ■■■

(Contd from cover II)

CSMCRI installed an Electrodialysis sea-water Desalination Plant based on Membrane Technology at Kavarathi island, the headquarters of Lakhshadweep in February 1989. The capacity of the plant is 5000 litres a day. The Kavarathi Plant is significant in that it is the first of its kind installed according to the indigenously developed membrane process. The cost of converting sea water to potable drinking water is 15 kilowatt hours per meter cube. This means 1.5 paise per litre. When labour and other costs are added it may come to 3 paise per litre. This is definitely on the higher side. But when plants with bigger capacities are set up the cost can be brought down to say less than 2 paise per litre. The Research and Development Wing of CSMCRI is working hard to produce good quality membrane to reduce the cost of water and tangible results are expected anytime.

Kavarathi has a population of around 5000. Installation of high capacity sea-water desalination plants can completely solve the drinking water problem of this capital island.

The Kavarathi experiment has proved beyond doubt that the Electrodialysis process can compete with all other desalination processes, costwise. According to this process the minor component i.e., salt is removed from the major component i.e. water. Two types of membranes are at present used. They are the Cation Exchange Membrane and the Anion Exchange Membrane. Electrodialysis (E.D.) is a process of transport of salt as ions through membranes with the driving force of an electric field. The ion transport may be varied by adjusting the current passed.

Ion selective membranes are placed between the Cathode and anode alternately. When the electrodes are charged by DC, the ions are diverted from the saline solution. Anions like Cl and SO_4 move towards the positive electrode. Cations like Na +, Ca ++ etc. move towards negative electrode. A cell consists of one anionic membrane and one cationic membrane with a spacer in between. A network consists of a number of cell pairs which is called a stack. Cation exchange membranes allow only cations to pass through them. Anion exchange membranes allow only anions to pass through them. As a result the concentration increases in one cell and decreases in the adjacent one. Both the streams are continuously transported from the stack through the respective pipings.

When the feed water is not clear it is subjected to pre-treatment like filteration and by adding acid or some complexing agent like Sodium Hexa Meta Phosphate. The life of the membrane is 3 to 5 years under ideal operating conditions.

This process is ideal for areas where cheap electricity is available. However, it can also operate with D.C. generated by photovoltaic cells.

The Kavarathi plant is unique in that the sea water which is very clear is directly passed through the E.D. stack. Water recovery is 60 per cent which is very high when compared to other methods. Acid produced in the concentrate compartments of the stack prevent scale formation. Chlorination is also not necessary as the chlorine gas produced in the anode compartment is sufficient to chlorinate the water.

Laboratory studies have also established that defluoridation also takes place and that the fluoride content is well below the level specified by the World Health Organisation.

This desalination process duly patented by the CSMCRI hods the key for a revolutionary change in the concept of providing drinking water to all. ■■■

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Dr. Zakir Hussain Niby (AHOB)

Noise-the most dangerous pollutant

What do aeroplanes, trains, cars and Pneumatic drills and radio and television sets have in common ? They all produce noise-the most dangerous pollutant of man's environment. The World Health Organi..ation (WHO) has fixed 45 decibels as the safe noise level for a city.

Bombay, New Delhi, calcutta and Madras usually register more than 90 decibels. Bombay is considered to be the third noiseiest city in the world. New Delhi is said to be closely following Bombay in noise pollution and if control measures are not taken to reduce the sound level, more than 50 per cent of Delhites will be affected by 2000.

By international standards, a noise level up to 65 decibels is considered tolerable, however, for hospital zones, it should be around 35 to 40 decibels.

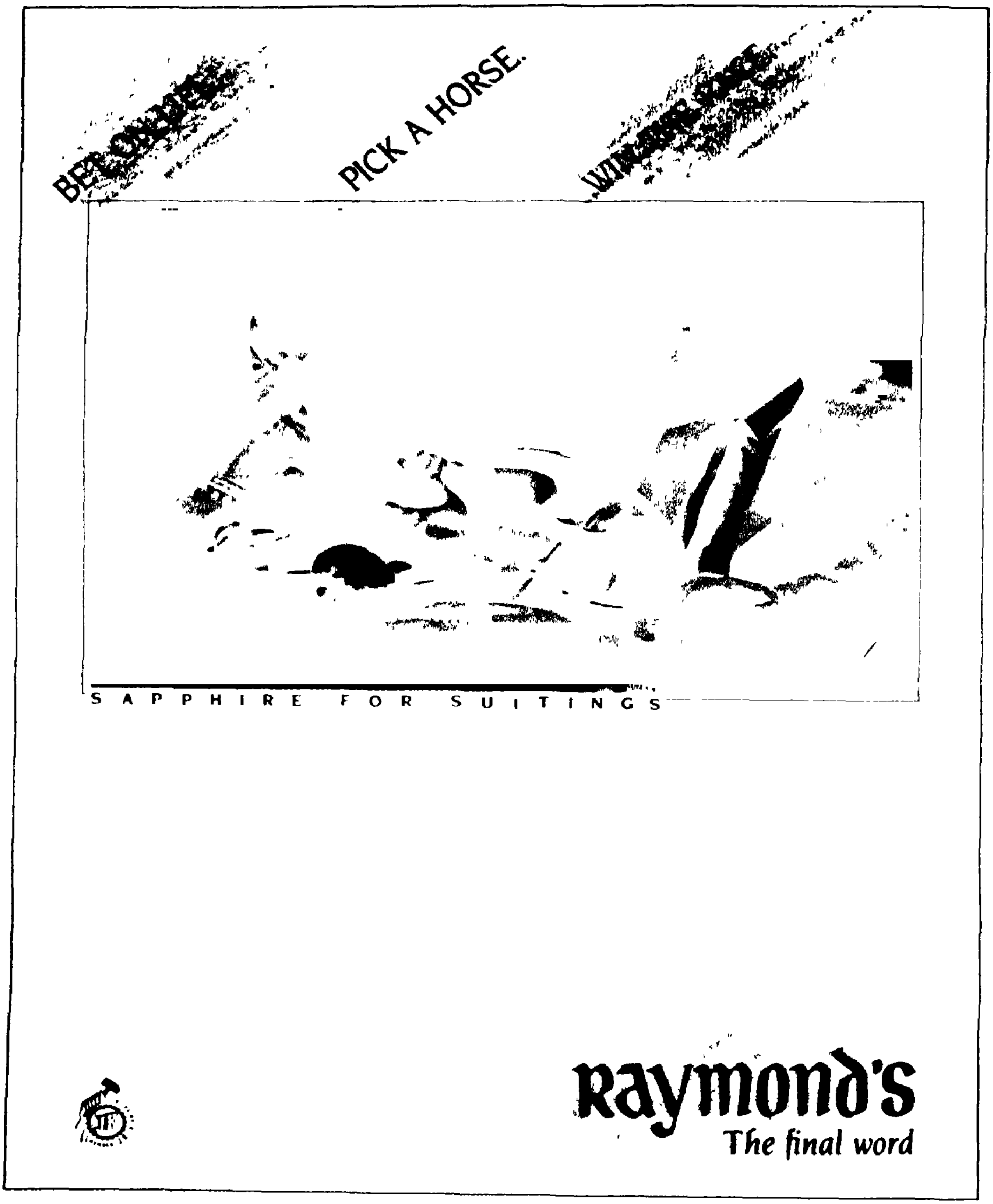
In the west, concern over noise pollution has resulted in introduction of noise-proof motor vehicles, construction of sound barriers on road sides, tunnels (instead of fly-overs) and restrictions on noisy traffic. Major cities around the world have banned flights at night. However, the movement against noise pollution is very weak in India. The main reason, according to environmental experts is most of us do not consider noise as a pollutant but as a part of routine life.

To curb noise pollution, it is essential that people realise the dangerous conseqences of noise and take remedial measures. In 1988, the Indian air polluation control order was amended to include noise as a pollutant.

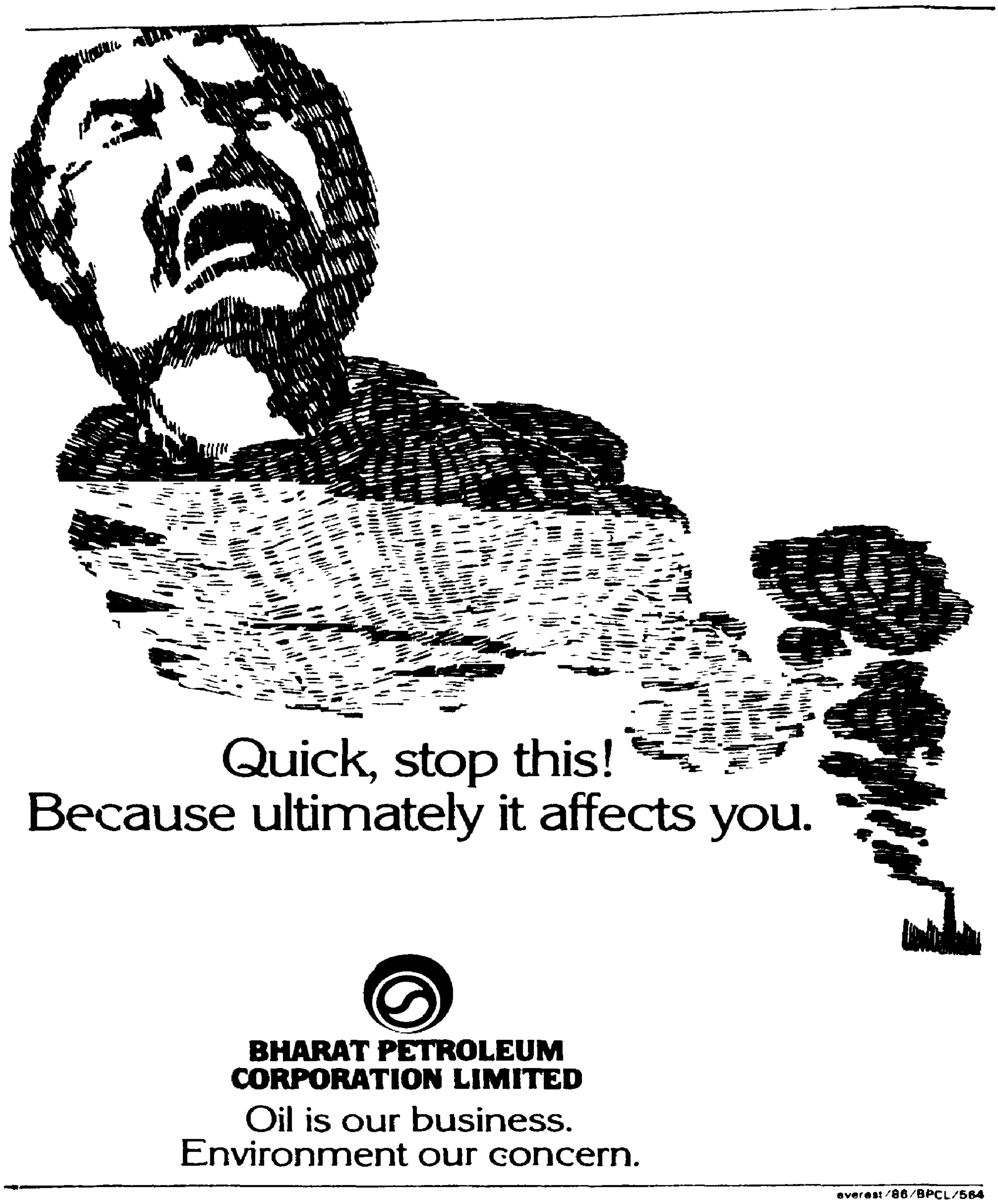
The air pollution board is preparing specific standards of noise level both industrial and ambient noise level. Industries are expected to be asked to change their manufacturing processes or use suitable techniques to keep the noise level low. The Bureau of Indian Standards (BIS) is also working to fix new standards of noise pollution levels, while researchers in some laboratories are trying to develop gadgets that control noise at source.

Scientists say green trees and plants absorb and dissipate sound energy and are therefore considered an effective protection against noise. The trees along the streets have been found to be good absorbers of the sonic bane. ■■■

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Onward, We Move With Plan

Just after seven and half months from today, we will be embarking on our eighth plan in a big way. For a country of the size and population like India every thing has to be planned on a huge and vast scale, taking into account the immediate and also the future requirements of the various states. And think of the states that India is comprised of? Some of them are larger in area than several countries of the world. Making plans of progress for such a country is not an ordinary or easy task. It is all the more complex in our case as some regions, by virtue of their natural and climatic conditions absorb planning efforts better while others do not. Where geography assumes the role of the determining factor for economy, and environment poses multiple problems, demands on planning multiply. Our planners have to face a paradoxical situation. While Rajasthan wanes from want of water and is threatened by the silent march of sand dunes, the north-eastern areas are ravaged by swollen rivers in rainy season year after year. Crores and crores of rupees have been invested in flood-control projects of all the seven plans that we have had. Perhaps in the eighth plan also the proposed outlay for flood control would be substsintial. It would be a planner's dream to divert the inundating waters of Brahmaputra to the parched soil of Bikaner. Well, it could be a poet's dream also for whom facts on the ground have little relevance to the flights of his fancy.

Let us be clear about one important point. Optimism may be bad, but pessimism is definitely worse, because it will lead us to nowhere. Our plans have been a success and have produced results. In all fairness, no one has a business to put our plans in the frame of "believe it or not". The outcome of the plans is written large and bold in a script understandable to all of us. Of course, the debatable point is: what level of success ? Could the plans have achieved more than what they have ? Have the targets been reached ? But, then again, it is all a matter of opinion, and opinions have a tendency to vary. That no planning is perfect and invulnerable, can hardly be denied. An earthquake, a season of unexpected drought, a flash flood, a slump in international market and several other similar factors are bound to disturb the pattern of planning. After the end of years of colonial rule, when India took up planning for the first time and launched her first Five Year Plan in 1951, it was really a big leap forward and a great venture, holding the hope of a bright future.

And what did we have to begin with ? A *truncated country, a miserable economy*, a neglected agriculture, a slender industry, a poor educational system, and dismaying dearth of trained personnel-that is what he had. We do not need a magnifying glass to see what we have today when our seventh plan is coming close to completion. Our agriculture stands on firm footing and is considered best among developing countries, despite the onslaught of drought and flood at one time or the other. Industry is robust and expanding in new dimensions. The successful launching of Agni has proved to the world our scientific calibre. India has entered into the foreign trade market in a magnificient way exporting items that are on a par with those proudced by advanced and highly industrialised countries of the world. These achievements are the outcome of thorough, concerted and well thought out planning endeavours that have been constantly put in over a period of four decades and a half. Let us also not forget that is is a very small time in the history of a country which had to bear the burden of alien domination for almost two centuires.

While we have all reasons to be happy with our successes, we can not afford to close our eyes to the failures. We have not been able to eradicate poverty and illiteracy and ignorance to the extent we should have. Unemployment is still our major problem. Housing continues to be a constant headache. The number of slums in big and small cities is persistently rising, causing socio-economic and health problems. Technical, medical, engineering and other educational institutions are far less for the number of aspirants seeking admission. For all our ills we have to take refuge behind the plea of the ever-invereasing population, *which being an established fact, and a cause of* perpetual concern, is not the sole reason for the many troubles we have at hand, At the same time, we have hardly any justification to blame the planners whose only job is to formulate feasible plans that go hand in hand with resources and requirements. Planning is not wishful thinking. Plans are made to be implemented, to be translated from idea into action, to be converted from concepts to concrete decisions. We can move ahead to higher goals of progress only through plans, provided we sincerely learn from the experience of our lapses, and also from the balanced and proper evaluation of our successes.

— Chief Editor

Houses to be built for millions

Madhavsinh Solanki

The comfort provided by a roof over head, supported by the four walls of a house which one may call his own, is incomparable. But how many of us can lay a claim to that comfort and sense of security. Search for employment has driven hundreds of thousands of people towards cities big and small, resulting into sweltering, swelling slums. Continuous rise in population creates roadblocks in the effective implementation of all housing plans that have been formulated over the years. Shri Madhavsinh Solanki, Minister of Planning and Deputy Chairman, Planning Commission, has reviewed with genuine concern, the problem of Housing in the country, in this lead article. He has come forward with some concrete suggestions, which, in his opinion, would go a long way in constructing a large number of housing units required by the evergrowing homeless millions. He has also given a passing reference to the high-powered working group which has been entrusted with the task of advising the Planning Commission on appropriate strategies to be adopted in the Eighth Plan for boosting construction activity.

IN HIS EARLY SEARCHES, IT WAS perhaps shelter that man looked for next to food. Heavens have since been built on earth. In India also, which is the origin of one of the earliest civilizations, structures with most precious material providing rarest comforts of life and protection from toughest weather conditions have been built including huge forts, mansions, temples and monuments based on architectural designs having no parallel all over the world. A large number of these building complexes and monuments like Taj Mahal and Qutab Minar are the centres of global tourist attraction today.

Yet, millions of our brothers and sisters have either no place to live or are living under highly inhuman conditions of deprivation. Over-crowding, lack of privacy, total absence or inadequacy of basic amenities, use of sub-standard building materials, and unhygenic surroundings dominate the scene of settlements. Slums and unauthorised colonies are proliferating. According to the National Commission on Urbanisation, as many as 45 per cent in urban areas are living in just single-room houses, nearly 5 persons to a room, in a state of extreme overcrowding. The Commission has further observed that, in 1981, nearly

37 per cent were without electricity and about 66 per cent without a latrine.

The position is much worse in the rural areas. Naturally the problem of housing has received attention of the Government right from the time of the First Five Year Plan. Huge investments have been increasing from Plan to Plan. The total investment in Housing is expected to go up from Rs. 1150 crores in the First Plan to Rs. 31456 crores in the Seventh Plan. In addition to fulfilling the basic need for shelter and improving thereby the quality of life, housing activity plays an important role in the economy. The residential houses alone contribute more than 2 per cent of the national income at current prices. In 1984-85, capital formation in housing represented nearly 17 per cent of the gross capital formation.

"Over-crowding, lack of privacy, total absence or inadequacy of basic amenities, use of sub-standard building materials, and unhygenic surroundings dominate the scene of settlements."

Construction of houses is also a major employment generating source. According to an estimate of the National Building Organisation of the Ministry of Urban Development, investment of Rs. 1 crore in residential building construction creates direct employment of 565 man years and indirect employment of 904 man years at 1983-84 wage/price level. According to 1981 Census, nearly 2.2 million workers were employed in the construction industry in India representing 1 per cent of the entire work force of the country.

role of public sector

Keeping in view the social importance of housing for meeting the basic need of shelter on the one hand and its economic importance on the other for being an important source of income and employment, it is necessary that Government should participate actively in housing programmes in order to accelerate the pace of construction of houses, particularly for the sake of the economically weaker sections (EWS).

Therefore a number of housing schemes have been taken up by Government from the beginning of the First Five Year Plan. At present the Central Government operates schemes mainly with a view to providing institutional and research support or to build residential accommodation for its own employees, whereas the State Governments are concentrating more on the actual supply of houses.

The State Governments also build houses for their own employees including the police force.

minimum needs programme (MNP)

Two nation-wide schemes have been taken up for the benefit of the most disadvantaged class of people. These schemes are being implemented as part of the Minimum Needs Programme to ensure that the outlays earmarked for the poor are utilised only to promote their welfare and are not diverted to some other uses.

One of the two schemes called the Rural House Sites-cum-Construction Assistance is a rural programme exclusively meant for providing housing facility to the landless labourers. Nearly 35 lakh families have already been given house sites in the first four years of the Seventh Plan i.e. up to 1988-89 and another 5.9 lakh families are to get the house sites in the last year of the Plan i.e. 1989-90. The number of families who have received construction assistance during Seventh Plan under the scheme up to 1989-90 is in the region of 20 lakhs while another 3.6 lakh families are targetted to receive this benefit during 1989-90. The other programme in operation under MNP is the Environmental Improvement of Urban Slums. A substantial section of urban population is forced to live in slums without proper shelter and elementary amenities like potable drinking water and privacy to defecate. The scheme of the Environmental Improvement of Urban Slums implemented throughout the country aims at providing seven minimum facilities like drinking water, common bathrooms and latrines, street lighting, sewerage, storm water drains, and street paving. Nearly 80 lakh slum dwellers have already been helped under the scheme in the Seventh Plan The target fixed for 1989-90 is 17.33 lakh slum dewllers.

twenty-point programme

In order to give the desired amount of thrust, the above two schemes of House Sites-cum-Construction Assistance and the Environmental Improvement of Urban Slums have also been brought under the Peurview of the Twenty-Point Programme in addition to MNP. Apart from these three more schemes namely, (i) Indira Awas Yojana; (ii) EWS housing and (iii) LIG housing also form part of the Twenty-Point Programme in so far as the Housing sector is concerned.

'According to 1981 Census, nearly 2.2 million workers were employed in the construction industry in India representing 1 per cent of the entire work force of the country."

Indira Awas Yojana was introduced by the Central Government in 1985-86 to provide fully subsidised housing accommodation to the scheduled caste and

scheduled tribe people and the freed bonded labourers in the rural areas who, on their own, are unable to afford beyond a sub-standard level of living. Since 1985-86, when the scheme was launched, nearly 5 lakh dwelling units have been constructed under it. The scheme not only provides housing units but also develops micro-habitats with basic amenities like approach roads, drainage, water supply, sanitation etc. In the case of EWS housing, developed plots of land measuring 25-35 sq. mts. are allotted at cost price to the poor persons. In addition, the beneficiaries are given a long term loan up to Rs. 5000/- per unit at the consessional rate of interest.

"Cooperative housing is the best example of self help. The cooperative sector is a powerful instrument in channelising the resources and initiatives of the individuals in arranging houses for themselves."

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other housing schemes

Last year a scheme was started by the Central Government under which grants are given to State Governments to take care of the housing needs of another category of the under privileged people namely, the pavement dwellers. A number of other housing schemes to cater to the requirements of different income groups, including the middle income group and the high income group, are being implemented in rural and urban areas.

role of private sector

Most part of the investment in housing has come from the private sector. During the Sixth Plan, private sector accounted for an investment of Rs. 18000 crores out of the total investment of Rs. 19491 crores in housing as against the public sector share of Rs. 1491 crores. For the Seventh Plan, it is estimated that the private sector would contribute Rs. 29000 crores while the public sector would provide only Rs. 2458 crores in the total investment for housing.

Construction of houses in the private sector is largely undertaken by individual households. A number of employers also provide housing facility to their employees. Some private developers and promoters have taken up housing activity as an enterprise in the recent years.

cooperative housing

Cooperatives are making a substantial contribution to housing for all sections of the people, specially those with limited means. They have already constructed seven lakh houses/flats and almost the same number is under construction. This sector is responsible for having made an investment of Rs. 3000 crores in housing. In addition, an investment of about Rs. 300 crores is being made by cooperatives annually to provide houses to its members.

Cooperative housing is the best example of self help. The cooperative sector is a powerful instrument in channelising the resources and initiatives of the individuals in arranging houses for themselves. The movement deserves to be strengthened and expanded to cover more and more people and areas and all possible help should be provided to it.

progress in housing

As a result of the efforts made by people and various initiatives taken by the Government, the housing stock in the country has increased fast. Based on the census data, NBO has estimated that the total number of housing units (excepting those categorised as unserviceable in the rural areas) increased from 71.5 million in 1961 to 105.8 million in 1981 i.e. a net increase of 34.3 million units or nearly 50 per cent. Qualitatively too, there was a marked improvement The relative share of Kucha and semi-pucka houses in the total stock declined in 1981 from 19 to 11.1 per cent and from 35 to 24.3 per cent respectively, whereas the share of pucka houses increased from 46 to 64.6 per cent in 1981 in the urban areas. The overall change in the rural areas is also in the same direction where the percentage of both pucka and semi-pucka houses increased compared to the kucha houses.

present magnitude of housing problem

Simultaneously, however, the rise in population also continued unabated and, consequently the supply-demand balance sheet remains negative despite huge accretion to the housing stock in the recent years. According to a NBO estimate again, the total shortage of houses in the country in 1981 was of the order of 23.3 million units. This shortage is projected to have increased to around 31 million by now and would be 41 million by 2001.

The above assessment of the housing position is a rough exercise and does not seem to reflect fully the actual magnitude of housing problem. While estimating the backlog of housing in urban areas in 1981, kutcha houses were not considered fit for human habitation and their number as per census was placed at 3.1 million. But this figure of 3.1 million kutcha houses appears to be an underestimate. According to an assessment made by the Task Force on Housing and Urban Development appointed by the Planning Commission (1983), 32 to 41 million people or 6 to 8 million households lived in slums in the cities and towns of India where the housing structure is usually of a highly substandard type made out of the waste and discarded material. If these structures providing shelter in slums are kept in view, the shortage of housing in urban areas should be far more.

Unlike urban areas, kutcha houses (other than unserviceable houses) in rural areas have been considered as fit for human habitation in the NBO estimates. This discrimination in rural and urban areas is not understandable. Better living conditions is not the sole privilege of urbanites. All human beings, irrespective of their residence, are equally entitled to the basic amenities of life and should not, in all fairness be treated differently. Similar discriminatory approach had been followed by NBO while dealing with the problems of over-crowding and over-aged houses. In other words, if the kutcha houses, which

"Like high price of land, high cost of building material also hampers construction of houses. Efforts have to be stepped up to popularise the application of low cost technology through extension services alongwith promotion of research to develop new low cost material."

number as many as 25 7 million units in the rural areas and the questions relating to over-crowding and over-aged houses are treated on the same lines as in urban areas, the actual housing shortage in the country will be more than double of the NBO estimate of 23.3 million units

Basic amenities of life, like provision of water supply, latrines, sanitation etc represent an important ingredient of a livable house. But these are conspicous by their absence in the rural areas and to a considerable extent in the urban areas too This fact about housing conditions in India further aggravates the problem of shortage of livable houses in the country.

promotional role of public sector

The colossal size of the housing shortage calls for a drastic change in the role of Government and its agencies. Private and cooperative sectors have a vast potential to mobilise resources and initiative of the individual households to build houses for themselves This potential should be tapped by establishing a suitable delivery system throughout the nook and corner of the country for the supply of necessary inputs free from physical, fiscal and legal impediments. The public sector agencies should concentrate more on promoting such a delivery system. Development of an efficient delivery system is, in fact, the key challenge before the Government today on the housing front.

main constraints

A major constraint in the way of increase of housing stock is the acute scarcity of developed land particularly in the urban areas and the consequent high land price ruling at a level far beyond the means of a common man. All out efforts are necessary to ensure supply of developed land in adequate quantity to all sections of the society, especially the poor & ecomically weaker sections of the society at an affordable price and at a place suitable to them with relation to their work place. It is well recognised now that the public agencies like Housing Boards and the Area Development Authorities should, instead of following a policy of providing built up houses, pay more attention to provide developed plots of land equipped with all the basic infrastructural facilities like water supply, sanitation, approach roads etc., leaving actual construction of houses to people so that limited means available to these agencies could help larger number of beneficiaries to build houses. For this purpose, the programmes of Sites and Services need be undertaken on an expanded scale. These programmes are at present designed mostly for the sake of economically weaker sections. This approach could with suitable modifications, be fruitfully adopted to serve the requirements of housing for all classes of economic status. The construction of houses by public agencies could be limited for the benefit of the economically weaker sections only, who perhaps cannot affort to make investment in housing on their own.

Like high price of land, high cost of building material also hampers construction of houses Efforts have to be stepped up to popularise the application of low cost technology through extension services alongwith promotion of research to develop new low cost mterial. The scheme introduced recently to establish building centres all over the country is a laudable step taken by Government in this direction. Arrangements also need be made for the manufacture and distribution of building materials at reasonable prices

"Access to institutional finance for housing has been another major bottleneck. Formal system of institutional finance for housing and consumption needs has not been part of our culture although traditional money lenders have been playing a prominent role specially in rural areas."

Access to institutional finance for housing has been another major bottleneck. Formal system of institutional finance for housing and consumption needs has not been part of our culture although traditional money lenders have been playing a prominent role specially in rural areas. Some institutions have come up recently like HUDCO and HFDC, LIC, GIC and housing finance cooperatives are other important sources which provide long term loans for housing. Some employers including Government and Public

(Contd. on page 38)

Urban growth in India

Prof. Sukhamoy Chakravarty.

Our small cities are expanding in area, while big cities are assuming gigantic proportions, making in-roads into neighbouring towns. The process of migration from rural areas to nearby cities is continuing non-stop and, perhaps, there is no hope of its ever coming to an end. Hence, slums have become an inseparable part of all our major cities. The prospect of employment lures the illiterate rural youth to the big cities, where he is hardly recognised as one belonging to the organised labour groups. In fact, he is left to the mercy of chance, which, more often than not, proves harsh and cruel. What then is to be done? Prof. Sukhamoy Chakravarty, Chairman, Economic Advisory Council, has analysed the causes of the incoherent growth of urbanisation, which has given rise to several tricky problems. He suggests that a multi-pronged strategy should be developed with a view to providing more employment opportunities within the rural areas, and educational system should be re-oriented towards job-specific studies. He would like to involve specialists from various fields to evolve a well-coordinated policy for urban development.

URBAN DEVELOPMENT WHICH IS generally a concomitant of accelerated industrial and commercial change, raises many major problems of policy and planning. While the basic necessity for a shift in work-force from rural to urban areas is inescapable, the pattern of the shift as well as its quantum may be moderated. However, instruments of policy intervention in this area are generally fairly blunt and easily overwhelmed by the scale economies of agglomeration, which are accentuated by relatively inadequate pattern of social amenities in urban areas. A pattern of habitation which stresses the growth of medium and small size towns can in the long-run serve as much better transmission belts for enhancement of quality of life than crowding in megalopolitan cities. Let us look at the facts pertaining

to the Indian situation before we turn to policy. It could be seen from Table 1 that the annual rate of growth in urban population had increased from 3.29 percent in the decade 1961-71 to 3.86 percent in the decade 1971-81; on the other hand, the rate of growth in rural population has shown a decline from 2.0 percent in the period 1961-71 to 1.8 percent in the period 1971-81. Consequently, the share of urban population in the total population has increased from 17.97 per cent in 1961 to 19.9 per cent in 1971 and 23.31 percent in 1981. This ratio might be much more than 25 percent at present and in all probability reach the level of 30 percent by 1991.

"The record of urbanisation over the last few decades shows that the rate of increase in urban population has been very much higher than the rate of growth in the number of urban settlements. This reflects the fact that most of the growth in urban population is taking place through the enlargement of the existing towns at almost every level rather than by the addition of new settlements."

Urbanisation can be measured in a number of ways. One method is to analyse the changes in the level of urbanisation in terms of changes in the share of urban population to total population This indicator, as we have seen already, shows a rising trend. The second method is to analyse the changes in the observed growth rates of urban and rural population. As can be seen from Table 1, the difference in the urban-rural growth rates has increased from 1.29 percentage points in 1961-71 to 2.09 percentage points in 1971-81 A third method is to analyse the changes in the net immigration in the growth in urban population. This indicator, in other words, provides an estimate of the extent of increase in urbanisation mainly as a result of migration from rural to urban areas A fourth method is to analyse the changes in the growth rates of urban population itself. Available data show that the process of urbanisation has accelerated very much in 1971-81 according to all these indicators

There is also another aspect relating to the trends in urbanisation as reflected in the pattern of urbanisation This pattern consists basically of two elements. One is the increase in urban population resulting from the growth in the areas which are already towns or urban in character. The other is the increase in urban population resulting from the addition of new towns or extension of boundaries. The 1981 population census reveals that nearly 60 percent of the urban population resided in Class I cities, i.e. cities with a population of one lakh or more, while 26 percent of the urban population resided in Class II and III cities (i.e. 20,000 to one lakh population). The record of urbanisation over the last few decades shows that the rate of increase in urban population has been very much higher than the rate of growth in the number of urban settlements. This reflects the fact that most of the growth in urban population is taking place through the enlargement of the existing towns at almost every level rather than by the addition of new settlements. It is this aspect which is at the root cause of many of the problems which subsequently develop in the urban areas. These problems are, perhaps most acutely felt in the major cities. The annual rate of growth of urban population in the major cities has varied from 2.2 percent to 5.8 percent during the decade 1971-81, as shown in Table 2.

The Seventh Plan projected that the share of urban population in the total population will reach around 32 percent by the year 2000. This share indicates that over 50 percent of the total addition to population in India during 1981-2000 would reside in the urban areas. This scenario when considered along with the trends in the pattern of urbanisation, i.e. enlargement of existing big cities at a much faster pace than the growth in total urban population, indicates that the problems associated with the rapid urbanisation will become more severe and complex in the years to come.

In 1981, 42 millions or about 26 percent of the urban population resided in the twelve big cities listed in Table 2. This is expected to increase to nearly 112 million by the year 2001. In other words, while urban population would account for nearly 32 percent of the total by 2001, nearly 35 percent of this urban population would be living in these big cities. Furthermore, it is also projected that the number of cities with a population of one million or more would increase to 36 by the year 2001 as against 12 in 1981.

"Between 20 to 35 percent of the population living in the 12 metropolitan cities did not have the facility of electricity, the highest percentage being in Calcutta city with 35.42 percent. Nearly 30 to 35 percent of the population in these cities did not have independent toilet facilities. Only 35 to 65 percent of households in these cities had access to tap water within their premises."

The concentration of such large populations in big cities raises very severe problems in terms of providing basic amenities and social infrastructure. They tend to bias investment away from directly productive activities into high cost infrastructure. As a matter of fact, there are reasons to believe that this has already happened to a certain extent in India. This tends to locate an overall sub-optimality in investment planning, because the widening gap between urban areas and the backward rural areas affects adversely

the development of human capital resources. This is also likely to produce numerous forms of social tension. In a recent article (Economic Times, 15 May 1989) on "Housing Conditions : Metropolitan Cities", B.K. Puri has analysed the 1981 census data and has brought our certain revealing facts. Puri's analysis shows that 67 percent of the households and 65 percent of married couples in Bombay city lived in one-room accommodation. Between 20 to 35 percent of the population living in the 12 metropolitan cities did not have the facility of electricity, the highest percentage being in Calcutta city with 35 42 percent.

"It is estimated that the speed of travel for a commuter in the metropolitan cities has come down to a very low figure of six to seven kilometers per hour in cities like Bombay, Calautta and Madras. Moreover, the road transport uses mostly petrol and diesel oil as fuel and this had led to a very high degree of environmental pollution".

Nearly 30 to 35 percent of the population in these cities did not have independent toilet facilities Only 35 to 65 percent of households in these cities had access to tap water within their premises

It would be clear from the above analysis that the trends in the pattern of urbanisation taking place in our country are leading to social problems, which, if unchecked, may lead to very unfortunate consequences. The rapid enlargement of these cities is also posing acute problems relating to transport and commuting for the millions who reside in these cities.

Available land in these cities are competing for multiple uses such as housing, commercial establishments, etc. The road network in these cities cannot be expanded in a big way due to lack of space. This has led to severe congestions of roads in the peak hours. It is estimated that the speed of travel for a commuter in the metropolitan cities has come down to a very low figure of six to seven kilometers per hour in cities like Bombay, Calcutta and Madras. Moreover, the road transport uses mostly petrol and diesel oil as fuel and this had led to a very high degree of environmental pollution. Since the existing public transport facilities in these cities including both road and suburban railways are awfully inadequate to meet the demand, mass rapid transit systems are being envisaged which involve enormous investment reinforcing an operative trend to increase in capital output ratio.

One of the basic reasons for the present situation in our big cities is that the various agencies in charge of provision of basic amenities are facing acute financial problems due to the prevalence of an outmoded tariff system for the supply of these services. For example, a study carried out by the National Institute for Urban Affairs for the Eighth Finance Commission has pointed out that the per capita expenditure on the provision of water supply was as low as Rs. 9 as compared to the standard norm of Rs. 24, while the average per capita receipts was still lower at Rs. 5. Water is a scarce resource and at the same time an essential need for the urban population. Unless the concerned agencies try to enforce some discipline in the consumption of water through differential and graduated levels of water rates for different categories of consumers in the big cities, the agencies would not be able to raise adequate resources for expansion and maintenance of water supply to the growing population in these cities. The need for a proper pricing policy is clearly felt in respect of all public utilities in the big cities in order to raise resources for expanding the existing inadequate infrastructural facilities. In this context, it may be pointed that our Plans generally talk of adopting strategies for raising resources from the capital market for these purposes. It is not, however, realised that resources can more efficiently be raised by adopting suitable tariff policies so as to charge the users according to their capacity. The tariff system has, in fact, played a prominent role in all the industrialised countries in respect of public utilities, including levy of tolls on the users of highways, parking lots in cities, etc., whereas these sources of revenue have been completely ignored in our country The basic point is that efforts have to be made to raise more resources from the users of public amenities in our big cities in order to expand the urban infrastructure.

The second basic reason is the increase in migration from rural areas to the cities Most of these migrants are illiterate and unskilled or semi-skilled and hence they are intermittently in the urban labour force by mixing casual employment with periods of unemployment This category of casual workers is most vulnerable than permanent wage workers in urban areas because they are not covered either by labour legislations nor by collective bargains through trade unions. Hence these workers are paid lower wage rates than those in regular wage employment for both men and women, irrespective of the level of formal schooling, as observed in an urban survey in West Bengal (Table 3). As a result, casual workers are found in the poorest strata of income or consumer expenditure. It is observed that for the urban areas at the all-india level, there is a strong positive correlation between persons days of unemployment and the percentage of casual workers in the labour force in respect of urban male workers.

In this context, it is also pertinent to point out that in 1983 the rate of unemployment in urban areas was nearly three times the corresponding rate in rural areas, as shown in Table 4. The unemployment rates

among the youth (15-29 years) in the urban areas were also much higher for both males and females as compared to the rates of unemployment in the total labour force in the urban areas. The available data on unemployment situation among youth shows that the rates of unemployment increased with the level of educational attainments as can be seen from Table 5. This reflects the problem of uneducated unemployed which is primarily an urban phenomenon.

The higher level of unemployment among youth in urban areas is partly due to migration from rural to urban areas. This is evident from the fact that between 1971 and 1981, the percentage of rural youth

"The need for a proper pricing policy is clearly felt in respect of all public utilities in the big cities in order to raise resources for expanding the existing inadequate infrastructural facilities."

population to total youth population declined from 77 to 75 (See "Indian Youth in Perspective" Department of Youth Affairs and Sports, Ministry of Human Resource Development, Government of India, November 1985, p 2) Among the migrants reporting employment as reason for migration, 30 percent were in the age group of 15-29 years and 72 percent of youth migrants had their last residence in rural areas This type of migration among the youth, especially the educated youth, along with the migration of illiterate and unskilled male and female adult workers to the urban areas, is further accentuating the problems of urbanisation. As already stated, most of these people are taking up jobs as casual and temporary workers at fairly low wages and they are thus forced to live in slums. To that extent, as urbanisation proceeds it becomes increasingly urgent to evolve more effective policies to help the disadvantaged groups in gaining access to relatively decent forms of employment along with certain measure of social security or protection

In my opinion, there is no easy solution to this problem which needs a multi-pronged strategy First of all, our development strategy should generate more employment opportunities within the rural areas both in farm and off-farm activities. This is especially important in regions which have high levels of incidence of rural unemployment. This strategy would atleast prevent the migration of adult workers from the rural areas to the cities. Secondly, our educational system has to be reoriented towards more job-specific studies instead of a general type of arts/science education so that the youth are able to pursue specific careers as soon as they complete their vocational studies. In other words, the emphasis in future has to be on functional education so that the productivity of labour could be improved. Thirdly, our developme strategy should devote greater attention to t development of rural industries, especially t traditional crafts along with necessary modernisatic so that opportunities for self-employment a sufficiently expanded in the rural areas. This mea that our programmes like IRDP, TRYSEM etc. have be implemented more vigorously after rectifying t lacunae which are presently observed in the programmes Fourthly, the urban local bodies have mobilise more resources for expanding ba amenities and social infrastructure for the urb population. This calls for a variety of modifications the existing tax structure in the urban areas, especia the big cities, relating to property taxation, such house tax, urban land tax, etc Simultaneou improvements are also needed in the present ta structure of public utilities such as water supp electricity and urban transport systems so as to ma the users pay for these services according to th capacity and the extent of use. Finally, sin urbanisation is a process concomitant to econon development, we should evolve a coherent a well-coordinated urbanisation policy It is pertinent point out in this connection that the report of t National Comission on Urbanisation released recen has come into lot of criticism from different quarte on account of various commissions and ommisio which indicated that we are not still able to grasp the implications of the problems associated with t process of urbanisation There is an urgent need for in depth study of the urban problems, especially

"There is an urgent need for an in depth study the urban problems, especially in relation to t urban settlement pattern and growth in t different regions, identification of the facto behind this pattern of growth, institution framework for the management of urban affai the sources of revenue and the pattern expenditure of the urban local bodies".

Table 1

Growth of Urban Population in India

Years	Population (Millions) Rural	Urban	Total	Share of urban population (per cent)	Annual rate growth (perce Rural	Urban
1961	360 29	78 94	439.23	17 97	–	–
1971	439 05	109 11	548 16	19.90	2 00	3.29
1981	525 46	159 72	685 18	23 31	1 80	3 88

Source. Registrar General of India, Ministry of Home Affairs, N Delhi.

Table 2

Growth in population in major cities: 1971-81

City	Population (Millions) 1971	1981	Annual rate of growth: 1981 over 1971 (per cent)
Calcutta	7.03	9 17	2.7
Bombay	5.97	8.23	3.3
Delhi	3.65	5.17	4.6
Madras	3.17	4.28	3.0
Hyderabad	1.80	2.53	3.5
Bangalore	1.65	2.91	5.8
Ahmedabad	1 74	2.52	3.8
Kanpur	1.28	1.69	2.2
Pune	1 14	1.69	4.0
Nagpur	0.93	1.30	3 4
Jaipur	0 64	1 00	4.6
Lucknow	0.82	1.01	2.1
Total	29.82	41 50	3 4

Table 3

Wage rates for non-farm service and production workers by general education categories in urban West Bengal, 1977/78.

General education	Daily Wage rate (Rs) Casual Work		Regular Work	
Male	Female	Male	Male	Female
Illiterate	6 32	3 45	9 46	4.06
Primary and below	8.10	3.85	10 76	4.40
Middle and secondary	7 74	3 80	14.21	6.39
Above secondary	–	–	24 68	–
All workers	7.36	3.50	12.01	4 17

Source P Bardhan, "Poverty and employment characteristics of urban households in West Bengal", in G Rodgers (ed), "Trends in Urban Poverty and labour market access", ILO, Geneva

Table 4

Usual Status Unemployment Rates: 1983

(per cent)

	Youth (15-29 years)	Total Labour force
Rural males	5.06	2.32
Rural females	3.37	1.76
Urban males	12.46	5 95
Urban females	17 63	8.14
Rural	4 54	2 15
Urban	13.39	6.35
All India	6.54	3.04

Source "Seventh Five Year Plan, 1985-90", Vol II, Planning Commission, Government of India.

Note: Unemployment rates are percentages to corresponding labour force.

Table 5

Unemployment Rates by educational level among youth (15-29 years) 1977/78

Educational levels	Percentage share in Labour	Unemploppyment	Rate of unemployment (percent)
Illiterate	48.9	25.0	3.97
Primary & middle	39.6	41.8	8.17
Secondary	8.8	23.8	21.86
Graduates & above	2.7	9.4	25.97
Total	100.0	100.0	7.75

Source. "Sixth Five Year Plan, 1980-85", p.204 Planning Commission, Government of India.

relation to the urban settlement pattern and growth in the different regions, identification of the factors behind this pattern of growth, institutional framework for the management of urban affairs, the sources of revenue and the pattern of expenditure of the urban local bodies. In particular, we have to pay greater attention to the financial implications of urban development programmes which are becoming increasingly unmanageable for the local bodies. We have to evolve a sound perspective of urban development involving all the specialities like architects, town planners, engineers, economists, bureaucrates, transport, health and medical specialists as well as sociologists. Otherwise, the urban situation will deteriorate further in the coming years.

From an age of things to an era of thoughts

Prof. P.N. Srivastava

In this age of fast developing technologies and surprising scientific leaps, the mind of man is going to have much greater control over matter. And, this control would prove to be of immense use for the betterment of our society. But, science if confined to campuses of universities and premises of laboratories, would not be able to bring the mighty change that is expected of it. For this, our masses have to be educated and trained. Prof. Srivastava, member, Planning Commission, has given a broad survey, in the following piece, of the remarkable achievements that our country has made in various fields of science and modern technology, covering areas like energy, electronics, space and oceanography. Yet, he holds that science has not become the culture of Indian people and we still continue to think and work in a medieval framework. Quoting extensively from Nehru, the great visionary, the author points out that our educational system is properly taken care of. In the words of Jawaharlal Nehru," You cannot have an illiterate country having an Industrial Revolution or any revolution or a Scientific Revolution." He has cautioned that money alone will not be able to deliver the goods unless a change is brought out in the very rigid system of our universities.

I AM HAPPY THAT YOJANA IS BRINGING out a special issue on our planning experience. It should be appreciated and "Yojana" congratulated for its efforts.

It had been the good fortune of our country that we had Pandit Jawaharlal Nehru as our first Prime Minister. His commitment for the good of Indian society is very well accepted by every one. In his vision of the good of society, science occupied a central place. He was convinced that of all the big problems that India faced, nothing was more important than the development of scientific research, both pure and

applied and scientific method. His sensitive understanding of the intellectual matrix of science came from his training at Cambridge but the depth of such an understanding came from his extensive reading of socialist literature and that of humanity. Soon after our independence, on the occasion of the laying of the foundation stone for the building of the National Institute of Science (now the Indian National Science Academy) on 19th April, 1948, he said "the scientific method is the only right method of approach to life's problems; and in India today it is even more important than elsewhere because we are backward with science... In India today we should pursue science in the right way and try our utmost to foster it. There is no other way except the way of science ultimately for the development of human life and institutions. This is the scientific approach to life's problems." Soon afterwards, on another occasion he had said that "scientific research in India shall not lag behind for the sake of money. If it does, it will be for lack of trained personnel." How true has his statement proved to be? This has actually happened because the Universities which produced trained personnel had been neglected.

"I am afraid science and technology may not come to a take off stage unless teaching of science improves in the university system. Science has not yet become the culture of Indian people and we continue to think and work in a medieaval framework."

Plan allocations for scientific and technological actitivies have increased from Rs. 20 crores in the First Plan (1951-56) to Rs. 4813 crores in the Seventh Plan (1985-90). Besides, the percentage of GNP devoted to science and technology had gone up substantially from about 0.1 per cent to 1.1 per cent at present which is much better than many developing countries. The trend is very clear and encouraging and it is expected that by the year 2000 AD India should be spending at least 2.5 per cent of the GNP on science and technology alone which will be comparable to the developed world.

In a colonial economy neither research in science nor its applications was given much importance. India was a non-scientific society in 1947 with a massive burden of a colonial past and lagged both in intellectual framework and institutional infrastructure for progress in pure and applied science. In spite of these drawbacks lot of good fundamental science was done by many Indian scientists which was solely because of their own deep interest and commitment to the cause. They were individuals, who had prevailed over a retrograde system. It may be pertinent now to look into this aspect as to why in spite of increased funding and encouragement that quality of science is not being produced today. Surely the number of scientists had increased tremendously. Where are scientists of the calibre of C.V. Raman, M.N. Saha, J.C. Bose, S. Ramanujam, S.N. Bose etc.

From the very beginning, soon after we got our Indpendence, the Prime Minister Jawaharlal Nehru took charge of the apex body to advise him on policy issues on science and technology and established a tradition for the Prime Minister being its Chairman, which is being continued even today. He relied mainly on S.S. Bhatnagar, P.C. Mahalanobis and H.J. Bhabha. The science and technology issues have been looked after by many succesive bodies such as Advisory Committee for Coordinating Scientific Work (1948); Scientific Advisory Committee (1956); Committee on Science and Technology (1968); National Committee on Science and Technology (1971); Scientific Advisory Committee to the Cabinet (1981); and Science Advisory Council to the Prime Minister (1987). However, the basic purpose of all these bodies remained the same.

While India's achievements of applied technology today have been mainly because of the sound foundations laid by Nehru in the metallurgical, mechanical, chemical, power and transport sectors, outlay of public funds in science and technology tended to be lopsided resulting in the neglect of Universities and centres of higher learning as a whole. I am afraid science and technology may not come to a take off stage unless teaching of science improves in the university system. Science has not yet become the culture of Indian people and we continue to think and work in a medieval framework. There is no doubt that a broad foundation for a modern economy has already been laid and, taken proper care, India can be considered at the threshold of a take off stage.

"Our achievements have not been mean by any standards but they could have been positively better had our priorities been a bit different and our capabilities and capacities had been utilised to the fullest."

From the very beginning, Nehru brought out changes in the Central Government and created new ministries – one of the first being the Ministry of Natural Resources and Scientific Research. Today we are aware that besides the Department of Science and Technology, we have Departments for Environment, Energy, Electronics, Biotechnology, Non-conventional Sources of Energy and Ocean Development etc. Efforts have been made to create a scientific and

technological infrastructure covering a very broad spectrum of disciplines and capabilities. The Science Policy Resolution adopted in March, 1958, in the framing of which Nehru took a personal interest states:

"The key to national prosperity apart from the spirit of the people lies in technology."

"Technology can only grow out of the state of Science and its applications."

"Scientific techniques can, in fact, make up for a deficiency in natural resources and reduce the demands on capital."

"We are increasingly moving, and moving faster and faster, from an age of things to an age of thoughts, an age of mind over matter. In this new age it is the mind of man free to invent, free to experiment, free to dream, that is our most precious resource."

This was followed by the formulation of Technology Policy Statement by Mrs Indira Gandhi in January, 1983. This is a major policy statement of the Government covering a whole range of issues relating to technology; development and assessment, forecasting; import and subsequent absorption, adaptation and further development, fiscal aspects etc.

In numerical terms, we have increased to about 180 universities including the institutes of technology and Institute of Science, Bangalore, deemed universities, about 120 medical colleges and more than 6000 colleges of all types (agricultural, veterinary, engineering, arts, science and commerce) In all, there are 320 science and technology institutions of which 240 are major S&T institutions incurring an expenditure of more than Rs 2.5 million each per year There are over 900 in-house R&D laboratories in public and private sector industries The stock of science and technology personnel is estimated to be over 3.5 million.

Quite often a statement is made that India has the third largest scientific and techonological manpower in the world. While making this statement we forget that we have a population of more than 800 million In terms of numbers, it comes to 3.5 per thousand in India which is way below that of developed countries (100 per thousand in U.K. and USA, 130 per thousand in USSR and over 300 per thousand in Japan). The number of scientists and technologists in research and development comes to 0.12 per thousand in India, 8.2 per thousand in U.K. and USA and 5 per thousand in Japan.

Our achievements have not been mean by any standards but they could have been positively better had our priorities been a bit different and our capabilities and capacities had been utilised to the fullest.

agriculture

Indian agriculture has made significant strides during successive plan periods. There was a time when some people thought that India one day will be a dying and starving nation but our food production has increased from about 50 million tonnes to over 170 million tonnes today. In spite of three consecutive drought years and the last one (1987-88) being one of the worst in the century we did not have to import food Now availability of foodgrains has increased from 150 kg per capita on the eve of planning era to 172 kg per capita in 1987-88. With the diversity of agro-climatic conditions based on which the agro climatic zones have been created recently one can very well foresee the panorama of agriculture in India seldom matched with anywhere else in the world With this base, agricultural scientists could rapidly move into the new areas of repatterning a genetic architecture to increase productivity of crops with the plant producing more grains than other biomass Through massive application of science and technology, a subsistence agriculture is going to be transformed into commercial agriculture.

health

From the beginning of planning, the country has made notable progress in the health sector The infant mortality rate has been reduced from 140 per thousand to 95 per thousand, the longevity has increased from 32 years to 57 years Small pox has been eradicated The population growth is also showing downward trend although we wished its rate would have been faster. The birth rate of 42 per thousand in 1956 has come down to 32 per thousand in 1988. We are going to embark on developing multi-sectoral approach to control the population growth in the next Plan. Communicable diseases like malaria, leprosy, filariasis and diahorrea are still on their research agenda. The coupling between the research system and the health care delivery system needs to be strengthened further. A good number of subcentres, primary health centres and community health centres have been created and the emphasis in the Eighth Plan has to be only on consolidation of these centres with respect to the services, medical facilities and personnels. On no account we should undertake expansion of programme except in far flung and difficult areas where people have to travel several kilometres to get medical facilities.

nuclear energy

In the field of nuclear energy capabilities have been established covering the entire nuclear cycle from

xploration, mining, extraction, purification and onversion of nuclear materials; production of fuel lements for reactors; the design and construction of ower reactors and their control systems for units of 35 MWe capacity, production of heavy water, health nd safety instrumentation; reprocessing of spent fuel nd waste management. The major development in he field of energy relates to increasing a significant legree of self-reliance in the manufacturing of

You may put up a fctory or a plant and the factory nay work and produce dividends, too, but if you re going to do something which will affect the ation-large masses of people – you have to affect hose masses of people in their thinking."

quipment for generation, transmission and listribution.

space

The thrust of the space programme has been to levelop skills and capabilities to design and building atellites, and satellite launch vehicles, to define areas f application such as telecommunications, roadcasting and remote sensing, and to design and abricate instrumenation for such application; and to ommission and utilise operational application ystems to ensure the benefits of space science and echnology for the socio-economic development of the ation.

We have gone a long way since the small sounding ockets were launched in 1963. The first satellite ryabhata was launched in 1975 followed by NSAT–1B in 1983 and INSAT–1C in 1988. INSAT–1D vould have been launched by now but for the slight lamage which took place recently. The successful aunch of the intermediate range ballistic missile Agni" is a matter to be proud of for all the Indians.

electronics and telecommunications

Electronics, and the associated areas of informatics nd telematics, is one of the key areas of development n the world today. We have developed a wide base of apabilities in this field There are major production gencies in the public, private and joint sectors several f which now have strong in-house R&D groups. everal systems engineering units have been created luring the Seventh Plan. There have been major levelopments in the area of professional electronic quipment and systems required in the fields of lefence, atomic energy, space science and technology, ommunications, civil aviation etc. It should be a natter of pride for all of us that in case of Indian Airforce all of the equipment presently required for the ir defence, ground environment system, consisting of radars of various types, troposcatter, cable and microwave communication links, complex data handling system are all of Indian manufacture, with the major part of it based on indigenous design and development.

oil and natural gas and petro-chemicals

In the oil and natural gas sector there have been remarkable technological and manufacturing achievements across the entire spectrum of exploration and extraction; prognostic service; studies and investigations in deep drill investigations; both off-shore and on-shore; oil production techniques and pipeline facilities, design and manufacture of off-shore rigs and platforms; under-water technologies; off-shore comunications, etc. Off-shore oil exploration in the world is a high risk, high investment and high return venture. India's performance to date had been comparable to any in the off-shore oil industry and its plan for future exploration and production can prove to be the main stake of our economy.

It is very hard for developing countries in particular that even before they could cope up with the first industrial revolution of the 19th century variety they were faced with the challenge of chemical technology, followed by micro-chip technology, biotechnology and the forthcoming technology of superconductors. The task has become very difficult because there has been a tremendous shortening of the time between the development of an idea and its useful application industrially.

During the last 10 years or so, the entry of computers into the ordinary house in developed countries has sustained one of the fastest growing consumer markets Their uses are limitless. Their applications arise from extremely low cost of micro processors – electronic circuits providing in a tiny volume, the basic logical functions of a computer. Processing power of these components is constantly being increased, while at the same time their cost and size plung down. Today we see before us the information revolution and the coming of an information society. The information and communication technology make it possible to strengthen man's intellectual ability in a way that other revolutions could not accomplish. In the years to come, however, software will prove to be an even more important problem. Software is in effect "intangible material" and software technology will be crucially important to information revolution. The maxim, "those who dominate materials dominate the technology" is being changed to "those who dominate software will dominate the world."

It was only in 1986 that a major breakthrough was brought about in superconductivity by two German scientists (Bednorz, J.G. and Muller, K.A.) working in the

IBM's laboratory in Zurich. It is extremely rare for the Nobel Committee to recognise an event so fast and to award the Nobel Prize to the two scientists within one year of their achievement. Breakthroughs in superconductivity bring us up to the threshold of a new age. We must recognize that the recent breakthroughs in superconductivity have outrun existing theories and brought us to the threshold of a new world of opportunities. The world around us is in the process of a radical transformation, a revolution of shattered paradigms and long held uncertainties. This transformation is opening for us new horizons of possibility which may be limitless.

"We cannot strengthen the tip of the pyramid of science and technology with any amount of steel and concrete unless we take care of the base, i.e., our educational system. Unfortunately this is not being done even today."

We are increasingly moving, and moving faster and faster, from an age of things to an age of thoughts, an age of mind over matter. In this new age it is the mind of man free to invent, free to experiment, free to dream, that is our most precious resource. The value of silicon chip does not lie in the sand from which it comes, but it is in the microscopic architecture engraved upon it by ingenious human minds. The most promising superconductors are made from ceramics – their value does not come from their material, but from the brilliant inspiration of a few scientists. It is human imagination that is going to build the 21st century out of sand and clay.

I will like to recall what Jawaharlal Nehru said towards the end of his life. I am not very sure if he was dissatisfied with what we had done or was he disillusioned. He was very unhappy to see a large section of our population much below the poverty line and perhaps he was aware of the failings of the Government. In one of his philosophical and recapitulating speeches in 1962 he stated: "You see that for thousands of years in human history, the per capita income of an individual was very low. It did not change or if it did change, the fluctuations were limited. Suddenly something comes that is the beginning of the machine age which increases the national income of the country and the per capita income, the big change comes, and that goes on, and all that is ultimately due to the application of scientific methods to methods of production etc. That is obvious and one may say that if we seek to develop a nation more or less in the same way and make it more wealth-producing, then inevitably you have to adopt methods which help you to produce more wealth, and those methods of production etc. can only come through technological techniques. That seems to be obvious but there is something more about it. You may put up a factory or a plant and the factory may work and produce dividends, too, but if you are going to do something which will affect the nation – large masses of people – you have to affect those masses of people in their thinking. Therefore wherever these revolutions have taken place, industrial or scientific, there has been mass education. You cannot have an illiterate country having an industrial revolution or any revolution or a scientific one (emphasis added). Apart from mass education, comprising everybody, we must have scientific education comprising, not everybody, but large numbers, and technical education. That becomes essential. And you find that happening in all these countries before the various changes came about. One of the most interesting examples is that of Japan, where you see a society completely changed according to plan and changed not suddenly but within relatively a brief period of time and the Japanese when they decided to change in the last century about the eighties (I forget the exact date) one of the first things they introduced was mass education and training of people."

Nehru's observations were very pertinent and they are relevant even today. Tremendous gaps in the infrastructural facilities and capabilities exist between what obtains in the specialised scientific agencies and *national laboratories*, in the industrial undertakings and in the educational system within our country. The educational system in particular has been allowed to run down to an unbelievable extent. This situation needs to be remedied rapidly. We cannot strengthen the tip of the pyramid of science technology with any amount of steel and concrete unless we take care of the base, i.e. our educational system. Unfortunately this is not being done even today. Whenever we are talking of strengthening the science and technology, we only talk of national laboratories, few scientific institutions and perhaps a score of universities which have come up through their own sustained efforts. The science and technology of the 21st century cannot be taken care of and strengthened unless the educational system is taken care of in a proper manner today and given a right direction. This needs a lot of correction and huge inputs in the Eight Plan. I may, however, also warn that money alone will not be able to deliver the goods unless a change is brought out in the very rigid system of our universities. The coupling between the science and technology infrastructure and capabilities and the production system in the country is weak. This has led to an insufficient use of the science generated and a lack of appreciation of the capabilities in the universities, national laboratories and scientific agencies. A clear manpower development, planning and placement

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Plan to preserve the Environment

By: Dr. Malcolm S. Adiseshiah

Not much has been done to preserve the environment, which is the mainstay of all our development activities. In the race for growth, our environment has been subjected to constant damage, resulting into irretrievable loss of fertile soil and invaluable forests, gross air pollution and visible deterioration in animal and human resources. Dr. Malcolm Adiseshiah, reputed educationist and social thinker, lays the blame for this state of affair, at the door of the economists and planners. He says that "we economists and planners have been the persons responsible for this widespread growth mania, because we were trained to measure everything, and growth is something that can be measured". He advocates that small dams should be constructed instead of the giant ones, large irrigation and industries projects should be abandoned, and new land reforms should be introduced so that the status of the tiller of the land be changed from an unregistered tenant to one of a peasant cultivator.

IT IS WELL TO BEGIN WITH THE Seventh Plan's *mea culpa* expressed in the words: "Realisation concerning these aspects (environmental and ecological imperatives) has been with us for only a relatively short period of time, about a decade and a half" In the 6 Plans that we have completed, not only has the environment been neglected, it has been damaged seriously-hopefully not irretrievably-in the words of Seventh Plan through "mismanagement of natural resources, large scale deforestation, the unplanned discharge of residues and wastes, the handling of toxic chemicals, indiscriminate construction and expansion of settlement activities etc"

quick overview of environmental damage

It is necessary to make a quick survey of the damage done through our 6 Plans to the environment-to our soil, forests, water, minerals, energy, air, animals, and human resources part of the environment.

soil

Over 60 per cent of our soil is uncultivated and uncultivable. A third of our 266 million hectares has gone out of production due to denundation, water

logging or salinisation, and a further third is only partially productive due to some degradation, so that we are left with the last third of 134 million hectares, which are under cultivation. This must be saved from further deterioration and shrinkage, as land producing food, fibre and other needs has declined from 0.33 hectares per capita at the start of the first plan (1951-52) to 0.29 per capita at the end of the Ninth Plan (1999-2000), with national average food production being today 0.86 tonne per hectare against a potential 3-4 tonnes per hectare.

Soil erosion is one of the serious problems created mainly be deforestation. So far in 6 plans, 2.4 billion tonnes of soil have been lost The Department of Environment estimates that 6 billion tonnes of top soil is washed into the sea every year The continued denudation of forest area and lack of vegetative cover has, according to the National Commission on Agriculture, increased the country's flood prone prone area from 25 million hectares at the start of the First Plan to 40 million hectares at the start of the Sixth Plan. The Department of Environment reports that the drought prone areas which were 20 million hectares in 1951-52 now cover 80 million hectares.

"The continued denudation of forest area and lack of vegetative cover has, according to the National Commission on Agriculture, increased the country's flood prone area from 25 million hectares at the start of the First Plan to 40 million hectares at the start of the Sixth Plan."

Soil also suffers from nutrient stress and drain which is worsened by the Green Revolution which removes important micro nutrients— zinc, iron, copper manganese, magnesium, which form a miniscule 1 per cent of plant's weight, but controls its growth and development Our effort to correct the deficiency of one element results in the loss of other micro nutrients (adding N (nitrogen) leads to copper and iron deficiency)

forests

A severe loss that our development over 6 Plans has inflicted on us is in regard to our forests. Here the Seventh Plan document is faulty because it refers to 23 per cent of the geographical area of the country (70 million hectares) being under forest cover and sets a timeless target of 33 per cent (100 million hectares) of forest cover to be achieved. The National Remote Sensing Agency of the Department of Space, however, reports that the area under more than 10 per cent of tree cover decreased from 55.18 million hectares in 1972-75 to 46.08 million hectares in 1981-82 that the entire depletion took place in regard to good forests with a density of 30 per cent tree cover (decreasing from 46.4 million hectares to 32.2 million hectares), while the poor forest area (between 10 per cent to 30 per cent tree cover) increased from 8.75 million hectares to 10 million hectares. This means an annual loss of 1.5 million hectares of good forests which places our real forests today at 33 million hectares. The replanting rate has been 0.12 million hectares over 30 years of Planning, which means that we are losing net over 1.3 million hectares a year. This depletion of the forest cover is due to a combination of development forces-a substantial forest area cleared and placed under the plough or plantations, big industrial and irrigation projects clearing and/or inundating vast forest areas, excessive felling caused by pressure of human or cattle population and the increasing demand which the development of the economy and its urbanised areas has created for timber, pulpwood, firewood and forestry products.

water

Our water resources comprise the annual rainfall (1170 mm), total annual surface flows from direct run off (115 mm), streams and rivers from neighbours (20mm), underground water courses (45 mm). Here our development programmes through clear felling of forests have interfered with the water cycle, as in Cherrapunji with its 12000 mm annual rainfall, and its instant run off, accentuating flood in Bangladesh and acute water scarcity in this most heavy rainfall area at the end of the monsoon. Ground water has the advantage of its being less susceptible to pollution, but even here textile, printing and dyeing units in Rajasthan, tanning in Tamil Nadu and UP and coir processing in Kerala act as polluting agents. In the country 360 million people do not have safe drinking water, to counter which a technology mission on drinking water has been launched in the Seventh Plan Irrigation, the major user of water (92 per cent), with industry and households using the balance (8 per cent) is the major component of the green revolution, which has trebled our foodgrain output and doubled our cash crops in 6 plan periods. But this has involved the accelerated spread of tube well irrigation at 50,000 a year in the 60s and 1.75 lakh a year in the 70s and over 2 2 lakhs in the 80s which is resulting in the over exploitation of the ground water for irrigation. This annual ground water withdrawal exceeding the rechange is characteristic not only of Maharashtra and the Deccan, but according to the Director General ICAR "at this rate of withdrawal of groundwater, the foodgrain bowl of India, Punjab

"Our power stations, functioning without pollution control machinery, will produce acid rain by the Ninth Plan. Recent studies show that the worst form of pollution is the wood smoke inhaled by the poor rural housewife while cooking for 3 hours every day, which is shown to be the equivalent of smoking 20 packets of cigarettes."

and Haryana, could become waterless deserts in 2 decades."

minerals

Minerals and other of our natural resources used by our industries through the cycle of raw materials, exploration and extraction, transformation into products, energy consumption and waste generation, and use and disposal of products by consumers have been part of the spectacular industrial infrastructure and expansion accomplished in the 6 Plans. But they have had also negative results in process and product pollution (in industrial effluents) and depletion and degradation of resources (in crude oil and gas consumption) which are brushed aside on the analogy that Europe, Japan and North America had to pass through the same stage to attain their current high industrial level on the basis of which they have very rigid laws and inflexible rules on use of minerals and other raw materials today. This "buy now and pay later" approach is based on the assumption that we have time to regain the environmental damage later. but as the Plan and Plan projections show the most scarce resource facing us is time *We do not have the time to do the repairing.*

> ***"We have expressed every thing in terms of percentage of growth-electricity, water supply, mining, petroleum and gas, imports, export, gross capital formation, and all efforts are directed to attainment of these growth rates, some how, any how or at whatever cost, sweeping under the carpet all the damages to environment that result. It is time now that we make a beginning to get out of this growth mania."***

energy

Starting with modern energy (a term I prefer to the term commercial energy with its implication that the rural housewife who spends hours gathering her energy fuel resources is engaged in non-commercial activity), the finiteness of our energy resources stands out, as expressed in million tonnes of coal replacement which for electricity is 62 increasing at an annual 4.8 per cent, for coal 183.50 *growing at 5.3* per cent involving exhaustion of metallurgical coal by [illegible] AD. for petroleum products 329.38 at an annual growth of 5.6 per cent with the certainty of their exhaustion in 20 years. In the case of nuclear energy, the problem is not its finiteness, but its safety, cost, health hazards and links with military uses. In renewable energy, fire wood is limited (50 million tonnes), agricultural wastes (111 *million tonnes*), animal dung (73 million tonnes), with bio mass and biogas as the only rapidly expanding energy source. There is then also solar energy, which is meeting a part of our energy needs for cooking, heating and as a component of the Integrated Rural Energy Programme, along with wind energy, and ocean energy which are still in the R&D stage and which do not have negative effects on the environment.

air

Pollution of the air in crowded cities like Bombay, Delhi or Calcutta caused in large part by the auto vehicles explosion is expanding from an annual 50,000 in the VI Plan to over 3 lakhs by the end of the VII Plan. A lethal pollutant is lead, which in each of the above cities is released at 400 kg a day, harming road and construction workers, police and pedestrians. Our power stations, functioning without pollution control machinery, will produce acid rain by the Ninth Plan. Recent studies show that the worst form of pollution is the wood smoke inhaled by the poor rural housewife while cooking for 3 hours every day, which is shown to be the equivalent of smoking 20 packets of cigarettes. There are a number of antipollution acts on the statute book-the Forest Conservation Act of 1980, the Water (Prevention and Control of Pollution) Act 1974 and Rules 1985, the Air (Prevention and Control of Pollution) Act of 1981 and most recently the Environment (Protection) Act 1986—which open up important control possibilities.

animal and human resources

The country's wide diversity of animal life which a guesstimate places at 25 breeds of cattle, 7 of buffaloes 16 breeds of goats and unknown types of sheep, pigs, camels, horses and poultry are facing genetic erosion, losses from indiscriminate cross breeding, inadequate nutrition and the general deterioration of their natural environment. What the cattle and animal census data do not bring out is the loss of lactation in the case of cattle which in 50 years has been of the order of 1000 to 1500 kg per buffaloe Because of space, the state of what we call wild life (tigers, lions, leopards, bears, deer, porcupine, rhinorceroses etc), our fish resources (inland and marine), and our bird life and the effect of development on them are not dealt with. They face the same deteriorating effects as the rest of our fauna.

On our human resources, which have been damaged most of all during our 6 development Plans, quantitatively, qualitatively and structurally, the facts are well known so that only the highlights need to be traced. Quantitatively the population has doubled between 1950-51 at 320 million and 1986-87 at 760 million, which has, at around 2.5 per cent growth outrun the rate of increase of food supply and has had deleterious effects on our other resources as seen earlier. Qualitatively, the poor state of education and the high illiteracy rate, the growing communicable and non-communicable diseases, the high rate of infant mortality, the deteriorating quality of housing particularly for the rural people, the frightening

occupational hazards caused by dust, silicosis, bysinosis, exposure to chemicals and accidents (of which Bhopal was only the tip of the iceburg) and the ills associated with our growing urbanisation, making us the fourth most urbanised in the world are some of the development effects of 6 Plans. But the most serious is the structural dualism that we have developed during the 6 Plans, wherein a small minority have all power—economic (the latest RBI survey reports that the top 25 per cent of rural society own 72.3 per cent of all rural assets, while the bottom 25 per cent own 1.7 per cent of them, the latest NSS round shows that the monthly expenditure of the top

"In the Eighth Plan, the first charge on Plan funds should be the installation of pollution control machinery, so that indsutry's damage of the environment can be reduced. The investment needed for this is a small 1-2 per cent of the capital."

10 per cent is twenty times more than that of the bottom 10 per cent, political (the rural and urban elite occupy the majority of elected positions at all levels, parliamentary, in the state assembly, and in the panchayat, except in West Bengal and Kerala) and socio cultural (involving caste dominance and the spread of middle class art forms and performing arts) while the majority of people face unemployment and under employment, and consequently living in poverty. This dual society that our development has spawned is its most tragic feature

causes for the environmental damage

What are the causes for this deleterious environmental record of our development over 6 plans? Here I must start with rejecting wholly the explanation offered by the Seventh Plan document which states "the problems encountered in the field of environment in India are due to conditions of poverty and under development as also the negative effects of development programme which have been badly planned and badly implemented". Here 3 causal factors for our environmental damage and deterioration are referred to: poverty, under development and bad planning and bad implementation of development programme But it is not poverty and those living in poverty who have and are damaging our environment but our well to do farmers who insist on big and bigger dams and the use of more chemical fertilisers and pesticides, our large and medium industrialists who are responsible for the clear felling of our forests and who are operating their factories without pollution control equipment. It is not under development which damages the environment but its opposite, namely, fast and hasty development (What the Plan document calls "more rapid development"). It is not bad planning and bad implementation of development programmes which have damaged the environment. It is because we conceived (and still do), development purely in terms of growth, whether it be foodgrains where we are flaunting a potential 20 per cent increase this year without any thought as to how these foodgrains will or will not reach the poor majority, or the effect of this volume of agricultural production on the soil fertility, water resources, risk laden chemical fertilisers etc. Similarly when setting the 5 to 6 per cent overall growth target, in the 6 Plans and 8 to 10 per cent industrial growth objectives, no indication is given of the pollution of water, land and air caused, the deforestation involved, the soil depletion, and workers health endangered.[4]

We have expressed everything in the terms of percentage of growth-electricity, water supply, mining, petroleum and gas, imports, export, gross capital formation, and all efforts directed to attainment of these growth rates some how, any how or at whatever cost, sweeping under the carpet all the damages to environment that result. It is time now that we make a beginning to get out of this growth mania. We are conditioned to judge everything by the rate of growth attained or not attained—from the President's annual address to Parliament to the annual Economic Survey and every one of 50 reports of the government of India ministries where the main emphasis is on the achievement of the growth rates. We need to replace this misleading guidepost by one which measures what is happening to the people, to the environment, both for today and for the furture. (*We economists and planners have been the persons* responsible for this widespread growth mania, because we were trained to measure everything, and growth is something that can be measured. So the change starts with the economists and planners).

the alternative sustainable development

The alternative to this growth dominance is set forth in the Seventh Plan document as follows."The basic approach to the Seventh Plan would thus be sustainable development" Only this alternative criteria is set forth in the last chapter of the Plan document (instead of being at the start, governing the whole Plan and is not defined, or is ill defined. Sustainable Development is not the ensuring that "all development programmes in all sectors will take environmental consideration fully into account". It is a holistic view of development, in contrast to the current doctrine and practice of viewing development as undimensional growth which serves the need of the wealthy few, maintains the majority in poverty and bases the growth of agriculturist and industry on the destruction of the environment and misuse of its resources. Sustainable Development is development which meets the basic needs of all particularly the poor majority for employment, for food,energy, water and housing and ensures growth of agriculture, manufactures, power and services to meet these needs. In that sense Sustainable Development merges economics and environment both in theory and decision making.

Applying this criteria of Sustainable Development

to the various facets and sectors of the upcoming Eighth Plan, the following outline is offered:

In *soils*, water conservation techniques as well as prevention of soil losses, using a natural entity like water shed which combines forest management, water management and land use management in the Eighth Plan. The farmer should be involved, so that he sees this programme not as a state effort but as one in which, by using these techniques, he gets 15 to 20per cent more of yield, and for which involvement, land reform will be effected, which will change his status from that of an unregistered tenant, a landless or submarginal farmer, a benami cultivator to one of a peasant cultivator.

"In the Eighth Plan every thermal station, factory or enterprise burning fossil fuel, should spend the 1-2 per cent of its capital budget in installing pollution control machinery as just stated. Pollutants let into rivers, lakes and tanks and the sea should be banned, by recycling the efflents as is being done so well by the Gujarat Narmada valley Fertilisers."

In *forests*, the rapid deforestation can be halted in the coming Plan by slowing (and in some cases) abandoning large irrigation projects and industries, which demand the clear felling of trees. Also forest policy in the Plan should not only stop inundation of forests and promote ecological restoration of degraded and denuded areas so as to meet the basic needs of the neediest but also be so integrated with agriculture, industry and energy policies as to meet the various requirements of (a) hill regions needing ecological stability through watershed protection, conservation of genetic diversity and protection of wild life, (b) waste lands for industrial wood production, and (c) village areas through which the needs of timber, fuelwood, fodder and green manure can be met.

In *water* the plentiful seasonal rainfall calls for water conservation measures through (i) reduction of instant surface run off and (2) increased infiltration and percolation. For this, increase in the vegetative cover of the soils should be the major focus in the Plan. Further large dams should be replaced by an increased number of medium and small dams. In this connection, the plan to build 10 major dams in the Periyar basin, fed by the rivers of the Western Ghats, which will both lead to misuse of water and inundation of 500 sq kilometres of forests should be replaced by smaller dams which will respect the hydrological cycle, distinguish clearly between essential and non-essential needs and meet the water needs of the poor and marginalised in the area.

In *minerals* and other resources used in industry, every public and private sector enterprise should be approved only on the basis of a feasibility report which should include proposals to control all forms of industrial pollution that it will give rise to. This should be recognised as a cost to be borne directly and separately by the capital budget of the firm or should lead to investments in improved production and efficient processes which reduce pollution, or lead to installation of pollution containing machinery and equipment. In the Eighth Plan, no industrial plant should be approved without this provision for pollution control, whose cost in some cases can be internalised by the enterprise, or externalised through transfer to the community property and workers health (which is being done today by both public and private sector firms and should be stopped), or can be subsidised by government and the banks. The greatest offenders in this regard are—public sector units in fertilisers, in thermal plants, in the mining of minerals, in petro chemical complexes. In the Eighth Plan, the first charge on Plan funds should be the installation of pollution control machinery, so that industry's damage of the environment can be reduced. The investment needed for this is a small 1-2 per cent of the capital. The 15 lakh small scale industries, producing Rs 57,000 crores of goods and employing 1 crore persons, are also a special case, generating pollution particularly in metal working,machine tools, printing, tanning and dyeing. For them, new technologies in micro electronics can help, if government were to provide them with information on less expensive pollution containing equipment (micro chips manufacture is highly polluting), and the needed financial assistance through banks.

In regard to *energy*, the emphasis should be on a low energy furture, where the Eighth and Ninth Plan investments are gradually switched from their exclusive emphasis on more thermal and more hydel plants to the highly efficient fuel saving end use development now available, and which reduces the country per capita energy consumption. I also recommend that we abjure the nuclear energy path in our future plans.

In regard to *air and pollution control systems* first pollution monitoring equipment should be installed on all urban and semi urban areas on the basis of which allowable emission standards can be established. In the Eighth Plan every thermal station, factory or enterprise burning fossil fuel, should spend the 1-2 per cent of its capital budget in installing pollution control machinery as just stated. Pollutants let into rivers, lakes and the sea should be banned, by recycling the effluents as is being done so well by the Gujarat Narmada valley Fertilisers. The use of insecticides in wet land rice growing areas should be limited and replaced at least to some extent by organic manures.

In regard to *human resources*, the Eighth Plan should provide the motivation for the poor family to reduce briths, for education and health facilities to be upgraded and for the Plan not to be drawn up as if we

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Rural development—the Indian experience

Dr. S.R. Hashim

Villages are the backbone of our economy. Unfortunately, a large number of our villagers are poor. In spite of the fact that several steps have been taken to bring rural people above the poverty line, the truth remains to be told that the desired result has not been achieved. Dr. S.R. Hashim, Adviser, Planning Commission, explains in the following piece that poverty has been substantially alleviated with the implementation of various rural aid programmes and the indications are that the situation would remarkably improve further by the end of the century. He holds that poverty is unevenly distributed, and there are certain areas and regions where it is firmly entrenched. His argument is that the concentration of poverty in those particular regions is due to deficiencies in infrastructure and under-developed productive systems in agriculture, industry and other sectors. He emphasises that the next plan should develop strategies to root out these deficiencies in order to bring about a better and balanced regional spread of growth.

THE DECLINE OF INDIAN ECONOMY DURING the colonial era was reflected more prominently in the impoverishment of rural India. Our country, of course, was, and still is, predominantly rural, but the system of extracting revenues from agriculture and deliberately introduced distortions in the cropping pattern caused decline in food supplies and an overall deterioration in rural conditions. The decline of cottage industry and the artisan class in the face of onslaught of British industry further added to the misery in rural India.

The Sixth Plan document has noted, based on expert estimates of national income during the first half of the current century, that the trend of growth rate between 1900-01 and 1945-46 was 1.2 percent for national income, about 0.3 percent for agricultural

production and 2.0 percent for industrial production. Percapita availability of foodgrains continuously declined over the first half of this century, and it is only during the fifties that the trend reversed. And this is in spite of the fact that long-run growth rate of the population during the first half of this century was around 0.8% per annum, whereas since 1951 it has been around 2.0% per annum. Rural population in middle of the century was around 89% of the total population.

The problem of rural reconstruction has to be seen in the background described above. In fact, the

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problem of rural development was the problem of Indian economic development. However, the approach to the problem through various plans and over the year has been changing alongwith the changes in perception and experience.

drive for capital formation

The perception about Indian economic development and the approach towards it during early fifties was largely influenced by the predominant theories of economic development at that time. These theories emphasised a change in the employment structure in the economy, i.e. withdrawing labour force from low productivity (traditional) sectors and employing them in high productivity (modern) sectors and continuing this effort till the entire economy was transformed. This process required capital. Hence efforts at savings and capital formation were emphasised. In fact, it was perceived, that idle, half employed or little productive manpower, if mobilised and used, itself could become a source of capital formation. It is in this spirit that the First Five Year Plan of India, while analysing the problem of development, devotes considerable space and emphasis on the need for stepping up the capital formation. However, while making the plan allocation, the practical consideration of alleviating the food situation seems to have dominated, and very large proportion of plan resources were earmarked for agriculture and irrigation. Also the concept of community development and national extension was introduced. Community development was described as the method and rural extension as the agency through which the process of transformation of the social and economic life of the villages was to be initiated.

The Second Five Year Plan was formulated under the framework of a more formal model of development (the Mahalanobis model which again emphasised the creation of a modern industrial sector and production of heavy and capital goods industries which would, in turn, accelerate the rate of capital formation in the economy. Availability of wage goods was considered necessary to help this process of transition and initially these wage goods (food and clothing essentially) could come from the traditional sector, i.e., agriculture and village industries. Thus strategies of agriculture and community development were retained. Among programmes for agricultural development, precedence was given to irrigation. Other programmes included spreading the use of nitrogenous fertilisers, improved seeds, land reclamation, flood control, and land reforms (continued from the First Plan). During the First Plan itself, a foundation for agricultural research was laid through Indian Council of Agricultural Research and a number of specialised institutions under the council. This thrust was continued.

significant rise in food production

The decade of sixties added to our planning experience in several significant ways. On the positive side there was a breakthrough in the agricultural technology – particularly in wheat, in later part of sixties and this started the often quoted green revolution. Though the spread of green revolution was constrained by already existing infrastructure, but soon it was clear that agricultural development could itself become the basis of other developments, modernisation and even industrial development. Agriculture based development had the added advantage that labour absorption was high, and surplus rural labour was absorbed in the rural area itself. The experience of labour absorption in the industrial sector was not very encouraging and structure of employment appeared to be very difficult to change.

There are two aspects related to the agricultural sector which will continue to dominate the perspective of Indian economy. One is the supply of food – the need for food security and the other is this sector's unique association with the problems of income distribution, employment and poverty alleviation. In 1950-51, the foodgrain output was about 51 million tonnes which reached to 70 million tonnes in 1954, and since then the output has shown an increasing trend barring the fluctuations caused by weather conditions. A peak of 152 million tonnes was reached in 1984 and another peak of 168 million tonnes is being estimated for the year 1988-89. Due to accelerated growth of population, production of foodgrains in per capita terms has not shown a significantly increasing trend. However, during this

period there has been a growth in the production of fruits, vegetables, fishes and the products of animal husbandry, which is also reflected in the diversification of the food basket. The share of meat, fish, eggs, fruits and vegetables, etc. in the total *household expenditure* on food increased from 11.7% in 1977-78 to 13.9% 1983-84 in rural areas, and from 16.4% to 18.1% in urban areas. A calculation, taking into account the growth in population and income and the target of feeding 95% of people at a level above the minimum nutritional requirements, projects the foodgrains demand at over 240 million tonnes for the year 2000. The challenge of producing this and more is to be met keeping in view the inherent inelasticity of the basic resources like land, water and ecology. This naturally places more emphasis on technology and management inputs

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On the side of income generation and income distribution agriculture plays a vital role in the Indian economy. Nearly 2/3rd of the working people depend for their main source of earnings on agriculture. Withdrawal of labour force from agriculture and its divergence to non-agricultural sector has been much slower than expected. Employment elasticities in the non-agricultural sector are very low and are also declining over time and hence future of divergence of labour force from agriculture to non-agricultural sector will be slow unless the economy grows at a rate much beyond what has been achieved so far, or has been expected in the near future. This is one reason why fluctuations in agricultural production are strongly associated with the percentage of the poor population.

keeping parity in income

The green revolution and massive investment in irrigation and other infrastructure has raised land productivity significantly but labour productivity has not grown at an appreciable rate. The very fact that nearly 2/3rd of our work force which is engaged in agriculture contributes only about one-third to the national product shows that productivity growth in agriculture lags much behind the productivity growth in non-agricultural sector. In order to keep tolerable parity in income of those engaged in agriculture with those working in the non-agricultural sectors heavy doses of subsidies are given to the agricultural sector in the form of subsidies inputs and irrigation. Also the price support system for major crops has been evolved to achieve this objective as well as to minimse the cobweb type of fluctuations in agricultural production. This imposes severe strain on the public exchequer and in future also there is little possibility of reducing the element of subsidy to agriculture.

programmes to combat poverty

Since early seventies a number of rural development programmes have been in operation with a view to *alleviating poverty* by increasing income and employment.

Four categories of programmes were launched : (a) individual beneficiary oriented programme aimed at small and Marginal Farmers (SFDA/MFAL) later supplemented by the Integrated Rural Development (IRDP), (b) programmes for additional wage employment opportunities – Crash Scheme for Rural Employment (CARE), (Pilot Intensive Rural Employment Programme (PIREP), the food for work programme, and (c) programmes for development of ecologically disadvantaged areas, where unemployment and poverty are markedly present apart from their low productivity– The Drought Prone Areas Programme and Desert Development Programme (DPAP and DDP); (d) a Minimum Needs Programme aimed at raising the level of living of the people in the rural areas through the provision of some basic social consumption inputs and vital components of rural economic infrastructure

With the launching of the Sixth Plan, the attempts at tackling the problems of the deprived sections of the population and disadvantaged geographical areas were sought to be further consolidated, rationalised and vastly expanded. The SFDA/MFAL Programmes which were essencially confined to Agriculture and allied sectors operating in only 1818 blocks, were merged with the Integrated Rural Development Programme and extended to cover all the blocks in the

"Agriculture based development had the added advantage that labour absorption was high, and surplus rural labour was absorbed in the rural area itself. The experience of labour absorption in the industrial sector was not very encouraging and structure of employment appeared to be very difficult to change."

SFDA: Small Farmers Development Agency.
MFAL: Marginal Farmers and Agricultural Labourers.
TRYSEM= Training Rural Youth for self-employment.
DRDA= District Rural Development Authority.

country, and, the scope of which included all activities in the Primary, Secondary and Tertiary sectors. Under this programme, income based criteria for indentification of the target groups were prescribed and a household approach was adopted. The Programme aimed to provide productive skills (through TRYSEM) and assests (through a mix of subsidy and credit) with the objective of assisting 15 million housholds/families during the Sixth Plan with an investment of Rs. 4500 crores.

The Food for work Programme redefined and restructured in the form of National Rural Employment Programme (NREP) was made a regular Plan Programme in 1981. This programme aimed at generating additional employment opportunities in the rural areas simultaneously creating durable community assests for strengthening the rural infrastructure. It also sought to improve the nutritional status and the living standards of the rural poor. The DRDAs were expected to act as the coordinating agencies for planning and implementation of this programme at the District level. Another special Employment programme – the Rural Landless Employment Guarantee Programme (RLEGP), launched in 1983-84 has the specific objective of providing upto 100 days of employment per annum to at least one member of each rural landless household. The RLEGP envisages creation of durable assets for strengthening the rural infrastructure which will lead to rapid growth The State Governments are expected to prepare a shelf of projects for implementation under this programme.

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The Drought Prone Areas Programme (DPAP) and the Desert Development Programme (DDP) are primarily area development programmes The DPAP aims at promoting a more productive dryland agriculture on the basis of the soil-water-climate resources of the area; development and productive use of water resources of the area, soil and moisture conservation including promotion of proper land use practices; afforestation including farm forestry and livestock development including development of pasture and fodder resources. The DDP has the main objective of controlling desertification and promotion of opportunities to raise the level of production and employment through activities like irrigation, afforestation, soil and water conservation, dryland agriculture, ground water development, livestock development etc.

In addition to the major rural development programme of IRDP, NREP, RLEGP, DPAP and DDP, there are a number of other programmes under implementation. These include the Minimum Needs Programme (MNP), the special programme of assistance to, small and marginal farmers for increasing agricultural productivity, Command Area Development Programme (CADP), Special Component Plan and Tribal Sub-plan, Hill Area Development Programme etc. The Tribal Sub-plan approach was adopted in the Fifth Plan and the Special Component Plans for the Scheduled Tribes were formulated in the Sixth Plan and these resulted in earmarked allocations for Tribal Sub-plans and Scheduled Castes Socio-economic development, apart from the general programmes of economic development. Beside these Centrally sponsored/All India programmes, a number of States are implementing special programmes for the benefit of the poor, like employment guarantee schemes, mid-day meal schemes, old age pension schemes etc. on their own.

Rural poverty has been substantially alleviated. Estimate of proportion of people below poverty line in rural areas for 1972-73 was 54.1%, for 1977-78 it was 51.2% and for 1984-85 it is estimated at 39.9%. There are indications that poverty has further come down in subsequent years. Such decline in poverty proportion is accompanied by diversification in consumption basket. This diversification in consumption basket is consistent with the diversification taking place in production structure in the agricultural sector and is a healthy dimension of growth.

There are, however, certain structural problems of growth which will have to be resolved with greater urgency in the coming phase of development.

concentration in certain regions

Poverty is unevenly distributed across the regions. There are well identified pockets of concentration of poverty. About 80 percent of the total population below the poverty line is accounted for by eight states. These eight states together also account for 70 percent of the unemployment in the country. The areas of concentration of poverty are mostly the areas with deficiencies in infrastructure and underdeveloped productive systems in agriculture, industry and other sectors. As such, the objective of poverty alleviation calls for an explicit focus in the plan strategy in general and in the anti-poverty and minumum needs programme in particular, on regions and areas with heavy concentration of the poor.

Agriculture in the better developed and faster growing regions has shown a declining employment potential and in the areas where agricultural growth

could be more labour absorbing, a stagnation or slow growth has characterised this sector. Features of rapid population growth, high levels of poverty and slow growth in agriculture and other sectors are all concentrated in certain regions. A massive effort at better regional spread of growth is required but this is not an easy task., How to find ways of concentrating more resources in those areas– more than what is possible within the framework of existing principles of devolution, is a matter which requires serious thinking.

Another structural problem of long-term nature is the growing disparity between agricultural and non-agricultural incomes. This is not the problem of terms of trade between agriculture and the non-agricultural sectors. In fact the terms of trade have not been unfavourable to agriculture. But the problem of disparity of income is related to decreasing average size of holdings and large proportion of work-force dependent on agriculture. Agriculture contributes only about one-third of the GDP but accommodates about 2/3rd of the work-force. While the long-run solution lies in shifting the work-force away from agriculture, in the short-run ways will have to be found to increase and supplement the income of those engaged in agriculture by encouraging them to combine agri-processing activities with farm activities and diversifying agriculture to more income generating crops and activities

Planning in the last decade of this century has to gear up to meet these challanges. Major efforts at re-structuring the sectoral and regional patterns of growth will have to be made. □ □ □

(Contd. from page 16)

Sector Undertakings are also extending loaning facilities to their employees for house building. But these sources fulfil only a fraction of our need.

A landmark development has taken place recently in this area with the formation of the National Housing Bank set up last year as an apex body at the national level for facilitating the flow of institutional finance for housing. It will act as a double edged weapon to tackle the problem. Through a net work of subsidiary institutions at the grass root level, it will mobilise household savings as well as make available loans to the people for house building. A Home Loan Account scheme has been formulated by the Bank which envisages regular deposits by individuals intending to build houses-linked bank accounts. After having thus saved for a minimum period of 5 years, the account holders would be entitled to obtain loans from the banks up to 2 to 4 times of the accumulated savings depending on the size of accommodation and their repaying capacity subject to a maximum limit of Rs. 3 lakhs.

In future

Housing is poised for receiving a much greater attention in the future years. A number of important initiatives have been taken recently by Government in this direction. Besides the establishment of the National Housing Bank referred to above, a National Housing Policy has been evolved setting out directions in definite terms to enable preparation of concrete action plans with the aim of eradicating houselessness by the turn of the century. Equity base of the Housing and Urban Development Corporation, which is a premier organisation functioning at the national level to finance housing and infrastructural activities, has been strengthened further substantially during the Seventh Plan.

We, in the Planning Commission, are now engaged in formulating the Eighth Five Year Plan due to commence next year. As part of the initial exercises, a high powered Working Group has been set up under the chairmanship of Secretary, Planning Commission, to advise the Commission on appropriate policies, strategies and programmes to be adopted during Eighth Plan for accelerating the pace of housing activity so as to achieve the goal of National Housing Policy to free the country completely from houselessness by the end of the century. □ □ □

(Contd. from page 26)

policy is called for to match the number of actual training of personnel with needs of the country. By such a process alone we shall be able to fulfil the dreams of Jawaharlal Nehru whose birth centenary we are celebrating this year. □ □ □

Trends in our foreign trade

Dr. Sada Shankar Saxena

Indian foreign trade presents an interesting pattern of ebb and tide during the years covered by the seven Five Year Plans. The items of exports and imports varied from time to time according to the requirements of national and international markets and the fiscal conditions obtaining in the country. Dr. Saxena, Director-General, Institute of Foreign Trade briefly surveys the trends in our foreign trade, since Independence and the strides we have taken despite limitations of our resources, constraints caused by protectionism and keen competition in world markets. He holds that modernisation and rapid pace of industrialisation have opened new avenues, and the situation is encouraging. The author tells that an impressive increase in exports both in range and quality, phenomenal import substitution, and considerable expansion in market, are the direct result of a proper planning process. He maintains that planning in our country has been used as a vehicle to accelerate economic growth, and industrial progress, which, consequently, provide a strong base for export efforts.

THE STUPENDOUS TASK OF ECONOMIC reconstruction and industrialisation beckoned the dawn of India's Independence in 1947. The goals of achieving an alround economic self-sufficiency, transforming the backward agrarian Indian economy into an industrial nation, and ensuring the teeming millions a better quality of life with higher standard of living, warranted colossal amount of resources quite apart from building the requisite infrastructure and marshalling foreign exchange to translate the set objectives into an actual reality. The gigantic, albeit formidable, task was initiated in 1951-52 through national level planning (even in the wake of limitations of resources) by country's first Prime Minister, Pandit Jawaharlal Nehru, to whom the nation is presently paying its tribute in the form of centenary celebrations. This visionary personality not only made a singular contribution in breaking the shackle of country's subjugation but equally eminently chartered the path of planned economic development and guided with distinction the destiny of democratic India for nearly two decades. Maximisation of human welfare and multi-faceted development of the country being the focus of planning, a synergic approach was adopted

encompassing all sectors of the economy, though from one plan period to another there was a relative shift on emphasis depending on the need of the hour as well as availability of resources.

initial limitations

The focus of planning during the first Five Year Plan was on agriculture, while the main thrust of the Second Plan remained on industrialisation India's foreign trade in the inital planning process suffered from three limitations reflected in backwardness of agriculture, narrow industrial base and inexperience

"India's foreign trade in the initial planning process suffered from three limitations reflected in backwardness of agriculture, narrow industrial base and inexperience coupled with lack of definite policies resulting in a somewhat trial and error approach. These acted as major impediments in developing exports and earning the much needed valuable foreign exchange for developmental purposes."

coupled with lack of definite policies resulting in a somewhat trial and error approach. These acted as major impediments in developing exports and earning the much needed valuable foreign exchange for developmental purposes. In the realm of country's foreign trade, fortuitous export performance of Rs 733 crores in the initial year of the First Plan, due mainly to the Korean War, instilled an element of optimism among the planners This optimism was presumed as a precursor of encouraging results during the rest of the plan period However, these hopes were belied and the First Plan ended with an average annual exports of Rs. 609 crores and imports at Rs. 723 crores leaving a trade gap of Rs. 114 crores. The growth rate in exports itself at one one per cent per annum fell far short of the targetted rate of 5 per cent.

pattern of trade

The export-mix in the First Plan predominantly followed the pattern prevailing during the colonial era. Tea, textiles and jute together accounted for 52 per cent of the total exchange earnings, though the share of all traditional items including hides & skins, cotton, spices, coffee and tobacco was as high as 85 per cent. Imports were characterised by machinery & equipment, foodstuffs, textile fibre, chemicals iron & steel, non-ferrous metals and petroleum products. Major proportion of exports was directed to Britain, USA, West Germany, Australia, New Zealand and Japan. The foreign trade scene in terms of its composition and directional pattern was in no way different during the second plan. This unsatisfactory export performance in the initial stages of planned development cannot be attributed to any faulty planning per se but more to the inherent limitations of the economy itself.

changing profile

As part of the planning process, various incentives and promotional measures were extended to the exporting community during the Third plan period (1961-62 to 1965-66) with a view to imparting competitiveness to Indian products in the world markets The wide ranging fiscal and financial incentives included cash compensatory support CCS import replenishment, duty drawback and supply of pre and post-shipment export credit at concessional rates of interest. These exercised a salutory effect on India's exports in the international markets Export profile which had exhibited a stagnating character during the first two plan periods later started looking up Not only the export profile included new and non-traditional items like engineering goods, chemicals and marine products, but the annual average exchange earnings during the Third Plan amounted to Rs 752 crores, their annual average growth rate being 4 per cent. However higher level of imports, amounting to Rs 1,241 crores on an average were deliberate with sizeable intake of machinery and capital goods as well as key industrial inputs to expand the export production base of the country, It was an achievement of the planning process that despite downtrend in exports towards the last two years of the plan coinciding with poor harvests leading to heavy imports of foodstuffs, and the two wars inflicted on the country by China and Pakistan in 1962 and 1965 respectively, the performance of our export sector, during the Third plan period, remained quite creditable

After the Third Plan came to an end, Indian rupee was devalued on 6th June, 1966 The extent of

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devaluation of rupee was 54.7 per cent in terms of the basket of currencies and 36.5 per cent in terms of gold reserves. Based on the premise that exports will commensurately become competitive in the international markets, various incentive schemes and export promotion measures were withdrawn consequent to the threat of devaluation. The withdrawal of fiscal and financial assistance measures such as CCS, duty drawback, import replenishment, supply of key inputs at international prices and availability of export credit at concessional rates exercised a cascading effect on country's exports which were far

less compared to the era of pre-devalued rupee. The export performance during the three annual plans pursued after the Third Plan was therefore not very encouraging.

era of export expansion

At the time of commencement of the Fourth Plan the incentive schemes and export promotion

"On account of the various constraints and the growing trade deficit the Fifth Plan itself had to be terminated one year ahead and the country observed a plan holiday for exports during 1978-79 and 1979-80. A significant feature, however, was that the process of product and market diversification marked during the Fourth Plan was continued and carried forward further in the subsequent plans."

measures which had been withdrawn consequent upon devaluation of Indian rupee were again revived. The international economic and trading environment during the currency of the Fourth Plan (1969-70 to 1973-74) remained quite congenial, characterised by demand expansion, commodity boom, rising prices, and market expansion. At home, in terms of national priorities, export sector was accorded the third place of importance next only to food and defence. The country had good harvests and, therefore, imports of foodstuffs represented only fulfilment of commitments made during the earlier years

The directional pattern and composition of trade during the Fourth Plan had undergone a sea change. While the leading items of exports were no longer traditional products, new items like gems & jewellery, engineering goods, leather manufactures; readymade garments, chemicals, and marine products had taken their place, the share of non-traditional items in exports rising to about 80 per cent. In terms of region-wise pattern of trade, exports were more evenly distributed among ESCAP, EEC, East Europe and North America. ESCAP (Economic and Social Commission for Asia and Pacific) emerged as the single largest trading partner of India with Japan as the major export market accounting for 14 per cent share in our exports. EEC, (European Economic Community) region occupied the second place though the leading market in this area, namely, UK with about 10 per cent share was relegated to fourth position. The second and third places in terms of export markets were held by USA (13.7 per cent share) and USSR (11.7 per cent). The development of bilateral trade and payment agreements with countries of East Europe as also commercial cooperation agreements with other industrialised economies played an important role in export expansion and market diversification.

It was during the Fourth Plan period that the country for the first time was able to narrow down the trade deficit to Rs. 165 crores as an annual plan average. In fact in 1972-73 the country had a surplus trade balance of Rs. 94 crores and during the plan about 91 per cent of the imports were met by exports. Annual average growth rate itself was 15 per cent though towards the close of the Fourth Plan, the export growth over the preceding years remained as high as 28 per cent and 32 per cent.

energy crisis and the aftermath

Just before the completion of the Fourth Plan the onset of energy crisis in November 1973 created numerous problems for the industrialised and the developing countries. The second oil shock of 1979 further aggravated the position. The net result of these developments manifested in slowdown of global economic growth, balance of payments problems, yawning trade deficits, mounting unemployment, deteriorating terms of trade, debt burdens, exchange rate fluctuations, and protectionism in the developed economy markets In the wake of these problems and challenges, India's average exports increased to Rs. 4,410 crores and imports were valued at Rs. 5,147 crores during the Fifth Plan period. On account of the various constraints and the growing trade deficit the Fifth Plan itself had to be terminated one year ahead and the country observed a plan holiday for exports during 1978-79 and 1979-80 A significant feature, however, was that the process of product and market diversification marked during the Fourth Plan was continued and carried forward further in the subsequent Plans

challenges of global recession

The Sixth Plan was launched in 1980-81 when the global economy was in the midst of second and more severe recession during a span of seven years. In 1980-82 world trade as a whole witnessed a dismal growth. Export growth during this period was barely 0 4 per cent for industrialised countries and 1.9 per cent per annum for developing economies The adverse effect on India's foreign trade during this period could be gauged from the fact that 50 per cent of the country's total imports almost for the same volume of petroleum intake represented the share of oil bill and over 80 per cent of export earnings were consumed by the import of POL (Petroleum, oil and lubricants) alone This unprecedented expenditure on oil imports inevitably retarded the developmental process notably modernisation and upgradation in wide ranging industrial as well as processing sectors of the economy by squeezing intake of machinery & equipment and key inputs such as iron & steel, non-ferrous metals and chemicals & compounds. To meet the emerging challenges, average annual exports during the Sixth Plan were raised to the level of Rs 8,904 crores However, imports at Rs. 14,547 crores outpaced the country's exports leaving an uncovered trade gap of Rs. 5,643 crores.

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recent foreign trade scenario

In the context of the dismal growth in world trade, export performance of India during the four years of the Seventh Plan has been quite encouraging. Exports have risen from Rs. 10,420 crores in 1985-86 to 20,287 crores in 1988-89 with an annual growth rate ranging between 25 and 29 per cent. The need for effecting modernisation in various industrial sectors warranting liberalised import policy regime has escalated imports during the same period from Rs. 19,622 crores to Rs. 27,693 crores. To a significant extent import bill in recent years has tended to inflate

"This unprecedented expenditure on oil imports inevitably retarded the developmental process notably modernisation and upgradation in wide-ranging industrial as well as processing sectors of the economy by squeezing intake of machinery & equipment and key inputs such as iron & steel, non-ferrous metals and chemicals & compounds."

on account of inflow of items of mass consumption such as cereals, cereal preparations, edible oils and fertilizers, domestic production of which has been inadequate. However, it is heartening that despite pressure of mounting imports, trade deficit amounting to Rs. 9,202 crores in the initial year of the Seventh Plan has been reduced to Rs. 7,412 crores during 1988-89, the penultimate year of the plan period.

Export profile of the country has undergone a welcome change during the recent years. The share of new or non-traditional manufactured products in exports has been sustained at 80 per cent. In particular, growth in this category of exports has been quite impressive, registering nearly 50 per cent increase during 1988-89. Basic chemicals, gems & jewellery, man-made yarn and madeups, and engineering goods are some of the sectors which have shown annual increase ranging between 58 per cent and 79 per cent. Other sectors wherein export growth has been between 27 per cent and 51 per cent are silk fabrics, readymade garments, leather and leather manufactures and minerals & ores.

No less significant has been the changed complexion of country's imports. On account of efficient import management and import substitution efforts, the overall increase in the country's imports during 1988-89 has been 23.9 per cent compared to 29 per cent in the case of exports. Bulk imports like petroleum, cereals, fertilizers and edible oils, in extent and quantum, are now dependent and occasioned to meet the shortfalls in domestic availability. These no longer follow the general and regular uptrend as was the case in yester years. Machinery and capital goods which have hither to been the single largest item of import last year recorded only 9.3 per cent increase. On the other hand, import of certain raw materials like rough diamonds and colour stones, which is reflected in increased exports and employment generation, has displayed an uptrend of 42 per cent in 1988-89.

Notwithstanding the higher growth rate in India's foreign trade, export expansion in absolute terms, and changed complexion of composition and directional pattern, there are still certain inherent weaknesses which emanate from the high cost of production affecting competitiveness in international markets, lack of compatibility in our marketing strategies and difficult market access. The position has been further compounded in recent years in the wake of worldwide recessionary as well as protectionist trends leading to demand squeeze on the one hand and intensified competition for the available limited opportunities on the other. Besides, inflationary trends and wide exchange rate fluctuations have tended to minimise the impact of otherwise higher growth rate in our exports. This is evident from our export performance in recent years when an increase of 25 to 29 per cent in local currency has meant 12 to 15 per cent growth in dollar terms and only a marginal increase of 4 per cent in SDR (Special drawing Rights) terms. In fact the balance of payments difficulties, dwindling foreign exchange reserves, and our declining share in world exports which are causing concern to the Indian economy, are culmination of these unfavourable trends

It is indeed heartening that the Indian economy is gearing its industrial and commercial policies, promotional measures, and institutional service support to give a new direction and dynamism to country's export sector. It augurs well that an annual export growth of 10-12 per cent in real terms, providing an in-built cushion of any slippages occasioned by extraneous factors, is being contemplated in the Eighth Plan.

In conclusion, it could be mentioned that the enlarged industrial base, impressive increase in exports both in range and quality, phenomenal import substitution, and market expansion as well as diversification are the direct outcome of the planning process. Planning in India has been used as an engine of economic growth and industrialisation which, in turn, constitute the sound base of our export effort. But for the technological maturity and the enlarged industrial base developed over the years, during the planning era, the export sector of the country would not have been able to withstand and meet effectively the recent challenges posed by the depressed international economic and trading environment. Nor had it been possible to plan, with confidence and optimism the future of the country's foreign trade scenario. In retrospect thus, the entire planning exercise in the Foreign Trade regime in India's context has indeed serveral interesting lessons to convey, for the immediate future to take a due note of

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Primary education-some flaws in Planning

V.R. Krishna Iyer

Universal education should be our goal and it should be accorded top priority on the agenda of the nation says Justice Krishna Iyer. To achieve this, a planned attack on the empire of illiteracy has to be carried out and the strategy must embrace people of all ages and offer them access to education through appropriate process says the author. He laments that our Planners have never learnt from the failures which overpowered the country in its adventure towards primary education. Hence we have to carefully assess our past achievements, redefine our targets and impart new drives involving popular participation says Justice Krishna Iyer.

THE CHALLENGE OF THE TWENTYFIRST century and the rapid change compelling the country to prepare for the new millennium desiderate serious reflection about our direction and destination in every field of development. The purpose of development, as the Cocoyoc Declaration tells us, should not be to develop things, but to develop Man. The most precious developmental asset of any nation is its human resources, not its raw materials nor its technology minus man. Therefore, it is appropriate that Prime Minister Rajiv Gandhi has rightly renamed the Ministry of Education as the Ministry of Human Resources Development; but change in nomenclature has no magic power unless our perceptions and projects are tuned to the values we cherish. If the quality of the human being is the measure of progress, eduation must be the focus It has been rightly said that the foundation of every State is the education of its youth. Indeed, in WEBSTER'S Words: "On the diffusion of education among the people rest the preservation and perpetuation of our free institutions." Our democracy, our socialism, our secular values, our republic's sovereignty itself depend on universal literacy Bernard Shaw put it bluntly, and perhaps poignantly, thus:

"Honest education is dangerous to tyranny and privilege: the systems like the capitalist system, kept in vogue by popular ignorance, churches which depend on it for priestly authority privileged classes, and ambitious conquerors and dictators who have to instil royalist idolatory and romantic hero-

worship, all use both ignorance and education as underpinnings for general faith in themselves as rulers "

It is sufficient, therefore, to realize that the highest priority on the agenda of the nation must be assigned to educational advance among the masses of the people Centuries back, Martin Luther told us what to-day we need to remember:

The prosperity of a country depends, not on the abundance of its revenues, nor on the strength of its fortifications, nor on the beauty of its public

"If the quality of the human bieng is the measure of progress, education must be the focus. It has been rightly said that the foundation of every State is the education of its youth."

buildings, but consists in the number of its cultivated citizens, in its men of education, enlightenment and character "

Most emphatically, the Kothari report expressed it thus.

"The destiny of India is now being shaped in her classrooms This, we believe, is no mere rhetoric In a world based on science and technology, it is education that determines the level of prospertiy, welfare and security of the people. On the quality and number of persons coming out of our schools and colleges will depend our success in the great enterprise of national reconstruction whose principal objective is to raise the standard of living of our people"

Before we talk in terms of planning to achieve education, in widest commonalty spread, it may not be inappropriate to define education itself.

John Ruskin, a most refined soul of his time, wrote·

"Education does not mean teaching people what they do not know It means teaching them to behave as they do not behave. It is not teaching the youth the shapes of letters and the tricks of numbers, and leaving them to turn their arithmetic to roguery and their literature to lust It means, on the contrary, training them into the perfect exercise and kingly continence of their bodies and souls. It is a painful, continual, and difficult work to be done by kindness, by watching, by warning, by precept, and by praise, but above all-by example."

Humanism and scientific temper are integral to holistic education. Compassion is education even as competence is literacy, and universal awakening of the inner potential of the masses is the only democracy of human resources. These fundamentals are the credal core of our constitutional commitment to educational patriotism When we define diffusion of education among the people we cover head, hand and heart Gandhiji wrote 'By education I mean an all-round drawing out of the best in the child and man-body, mind and spirit.' Alas, apart from the verbiage, updated basic education is on the cross under the new concoction the New Policy on Education, the N P E. Elitism is writ large in the Navodaya. Realising the strategic significance of universal education, our founding fathers mandated that the State shall promote, with special care, the educational interests of the weaker sections of the people. They further directed the State to provide free and compulsory education for all children until the age of 14 years

The goal, therefore, is clear-universal education, the strategy, equally is indubitable— every Indian shall enjoy the advantages of literacy in all its human dimensions The dialectic of educational India, however, tells us that the number of illiterates and, consequently, the number of the uneducated is increasing year by year How, then, shall we conquer this menace of mental, moral darkness spreading across the nation ? The answer obviously is a planned attack on the expanding empire of illiteracy and educational backwardness. A Planning Commission has been at work, since 1952, inspired by the first Prime Minister Jawaharlal Nehru. A planned effort to meet the challenges of development has been made during several decades now but we have not made much headway Inevitably, the issue arises as to whether we should not do a social audit of our planning experience in education, draw conclusions therefrom and re-design our policy of engineering the nation towards complete educational justice to the community as a whole.

The strategy of banishing illiteracy in a Third World country must be fine-tuned to the dynamic development of an advancing nation This metamorphosis must embrace people of all ages and

"The goal, therefore, is clear-universal education; the strategy, equally is indubitable-every Indian shall enjoy the advantages of literacy in all its human dimensions."

must offer access to education thro' appropriate processes like *non-formal, part-time* and adult education, together with the regular school-going learning exercise. If education is a national responsibility, its futuristic palnning cannot tolerate any alibi. The Centre, the States and the lesser level institutions plus non-governmental agencies must be mobilised to maximise performance. Then only we may hope to enter the 21st century armed with an educated generation, trained to meet the challenges of our times. The New Policy on Education (N E P.) has set these goals, of course, but we have not learned from the shortcomings experienced in planning in

the past. This is obvious from the fact that the Central Government is still talking of Operation Blockboard which is a confession that in the rural schools, particularly, we have not supplied even blackboards or toilets or books or other necessaries. The Planning Commission, in its Five-Year Plan reports, has been repeating the same slogans and never learning from the failures which have overpowered the country in its adventure towards total primary education. If you take any Five Year Plan report you will find the same ideas, even the same phrases. Words, words, words, but no deeds which upgrade the educational status of the masses The usual apologies for shortfalls in enrollment at the school age, the usual admission that the targets for

"The strategy of banishing illiteracy in a Third World country must be fine-tuned to the dynamic development of an advancing nation. This metamorphosis must embrace people, of all ages and must offer access to education thro' appropriate processes like non-formal, part-time and adult education, together with the regular school-going learning exercise."

elementary education were not realised in full, the same story that the anticipated enrolments in secondary education showed a shortfall, the same grievance that girls have not come into the school range as expected and the humiliation that the largest number of illiterates in the world are still in India. This sorry state of things must change. We cannot drift but have a Plan, a policy, projects and periodic monitoring by sensitive official and non-official catalysts.

The great art of planning for a nation's progress has been adopted as a scientific strategy by India, copying from the Soviet Union, and creatively adapting it to our culture and conditions, led by the first Prime Minister and great architect of our Republic, Jawaharalal Nehru. Projects without plan are a march into chaos; and that is why we have, thro' the Planning Commisssion, organised every department of Development according to goals and navigational course laid down in the various national plans. Currently, we are on the threshhold of the Eighth Plan. Much has been achieved in several fields during the Seven Plans which have gone before, but policies must be perpetually readjusted according to the country's resources and performance sheets. India, having regard to its socio-economic dynamism, cultural pluralism, enormous demography and territory, cannot achieve anything in any field without careful assessment of past acheivements redefining targets for fresh adventures and imparting new drives involving popular participation. This holds good in the field of agriculture and energy, environment and industry, science and technology and, more than all, edcation in all its facets. Such a vision must inspire our planned locomotion.

value-based education

The Indian scene is a poignant reminder that negative edcuation, without nationalist orientation and Third World vision, may only accelerate the race of history towards catastrophe! My submission is that we must revolutionize our education, its means and ends, its tryst with destiny, so that our rising generation, rich in mental reach and creative intelligence, righteous in moral indignation against environmental pollution, political, economic and other, and ready to die for human dignity and integrity and promote the nation's advance, may rise to its full stature and make Bharatiya vidya its true heritage. Unfortunately, Lord Macaulay, whom Mathew Arnold described as 'the great apostle of the Philistines', haunts our campuses, makes us swarms of superclerks, clever quacks and noisy ignoramuses sans swadeshi sikills or cerbral originality. We have mechanics, not artists, brick-layers, not architects, hawkers of second-hand knowledge, not heroes who unfurl new horizons nor leaders whose words and deeds meet, not Gandhis and Nehrus, Lenins and Lincolns ! but phoney greats whose presence in public life is polution.

We have suffered amnesia about our heritage because of a pathological passion for dehumanised high-technology. Do our planners hear the ringing vocie of Vivekananda: That cyclonic Sadhu and spiritual patriot, who was a century ahead of his generation orated:

> "We must have hold on the spiritual and secular education of the nation. Do you understand that ? You must dream it, you must talk it, you must think it, and you must work it out. Till then there is no salvation for the race. The education that you are getting now has some good points, but it has tremendous disadvantage which is so great that the good things are all weighed down. In the first place it is not a man-making education, it is merely and entirely a negative education. A negative education or any training that is basd on negation, is worse than death . By the time he is sixteen he is a mass of negation, lifeless and boneless. And the result is that fifty years of such education has not proudced one original man in the three Presidencies. Every man of originality that has been produced has been educated elsewhere, and not in this country. or they have gone to the old universities once more to cleanse themselves of superstitions. Education is not the amount of information that is put into your brain and run riot there, undigested all your life. We must have life-building, man-making character-making assimilation of ideas. If you have assimilated five ideas and made them your life and character, you have more education than any man who has got by heart a whole library. "The ass carrying its load of sandalwood knows only the weight and not the value of the sandalwood " If education is identical with information, the

libraries are the greatest sages in the world, and encyclopaedias are the Rishis. The ideal, therefore, is that we must have the whole education of our country spiritual and secular, in our own hands, and it must be on national lines, through national methods as far as practical"

poor primary literacy

The conditions which disable the young to come and continue at school are poverty, ill-health, child labour, and tendency for drop-out. Nearly five crores of children labour to make a living. Several lakhs of juveniles are destitutes or delinquents. The national literacy rate is around 30% and India, by the 21st century, will have the shameful record of over half of the world's illiterates living within its territory With commitment to planned liquidation of this pathological educational problem, we did get an excellent Report in 1968-with brilliant formulations and excellent recommendations Regrettably, our Governments have flair for planned neglect of progressive Reports. That fate befell the Report

"The Indian scene is a poignant reminder that negative education, without nationalist orientation and Third World Vision, May only accelerate the race of history towards catastrophe ! My submission is that we must revolutionize our education."

In 1985 under the Education Minister Narasimha Rao a new plan to reach the target was drawn up, the New Policy on Education But it makes poor practical sense as a process to attain our ends

What is happening is that the common masses are marginalised and glittering schemes, elitist in their soul, are sold. They cannot take off *Navodaya* schools are Doon schools, one in each district ! What we need is *antyodaya* schools, one in each village Currently, villages without schools, schools without teachers, buildings without roofs, classrooms without blackboards, hungry child labour making for drop-outs at a high rate-these and other unhappy rural realities are the syndrome of educational untouchability. But alas, the NPE is rehetorical without being practical and leaves untouched illiteracy unlimited.

One of the highlights of the Policy is the stress on the quality of education. Excellence is the phrase often used by the elite to defeat the claims of egalite by the common humanity Each district will have a model school. What model ? Doon model ? The paper uses dubiously charming phrases

"Their broad aims will be to serve the objective of excellence, coupled with equity and social justice (with reservation for SCs and STs), to promote national integration by providing opportunities to talented children largely rural, from different parts of the country to live and learn together, to develop their full potential, and, most importantly, to become catalysts of a nation-wide programme of school improvement. The schools will be residential and free of charge"

(NATIONAL POLICY ON EDUCATION 1986).

Let us be blunt about the objective of these adarsh vidyalayas. What pace will one school set in a district when lakhs of illiterate children sans food, sans clothes, sans consciousness of literacy live as bonded labour, pavement dweller or unlettered agrestics supernumerary progeny ? When a molar strategy or mass scheme for each taluk covering tens of thousands alone can make impact, how can a molecular mini-model school project which touches the chosen fringe of the population transform by magic ? What illusion, what opium ?

The Policy is well stated in the Ministry's papers.

"The Education Commission of 1964-66, the National Education Policy of 1968 and practically all others concerned with education have stressed that the egaliterian goals and the practical, development oriented objectives of Indian society can be realised only by making investments in education of an order commensurate with the nature and dimension of the task"

The Policy Paper argues:

"Measures such as mid-day meals, free supply of uniforms and books, and even Central assistance to the nine educationally backward States for the appointment of women teachers in single teacher schools have not yielded significant results as yet Consequently, new approaches such as the setting up of part-time schools and non-formal education centres have been proposed to provide flexibility in the school routine for accommodating boys involved in income generating activities or family occupations and girls preoccupied with domestic chores, especially the care of siblings "

The White Paper day-dreams:

"Recognising the holistic nature of child development, viz., nutrition, health and social, mental, physical, moral and emotional development Early Childhood Care and Education (ECCE) will receive high priority and be suitably integrated with the Integrated Child Development Services programme, wherever possible. Day-care centres will be provided as a support service for universalisation of primary education, to enable girls engaged in taking care of siblings to attend school and as a support service for working women belonging to poorer sections".

Another fatal error, despite our better educational experience, relates to the private sector.

(Contd. on page 53)

Changing complexion of Indian economy

Dr. Vinay Bharat-Ram

Indian economy has bravely faced the strains and stresses throughout the post-independence era and has triumphed over many trials. The challenge before us now, says Dr. Bharat-Ram, Managing Director of D.C.M. that we must take advantage of global circumstances in such a manner that India becomes a major economic power. In a sharp, balanced analysis, the author explains that our economy has a great capacity to accommodate to changing situations. With rapid pace of industrialisation, and fast diversification of products, we now have an ever expanding internal and external market. The demand for consumer goods is increasing despite the fact that a vast segment of population is still below poverty line. A positive balance of trade, where exports match with imports, is the hallmark of a robust economy, says the author and asserts that India should make the presence of its goods and services felt in the world-market. While surveying the shift of outlay from one plan to another, he holds the view that Indian planners have been very pragmatic in approach and accommodating to varying circumstances.

THE INDIAN PLANNING EXPERIMENT WAS novel in the context of a newly independent democratic nation. While the Russian Gosplan served as an inspiration to Pandit Nehru, our Planning proceeded along uniquely pragmatic lines. Nonetheless, different scholars have influenced the approach to Planning at different periods of time The First Plan relied on the Harrod-Domar model; the Second Plan on the Mahalanobis model which was notable for its emphasis on capital goods in the context of a closed economy, the Third Plan stressed the importance of International trade under the influence of Ragnar Fristich and J Sandee and subsequent Plans followed progressive refinements of Leontiff's input-output model.

The pedagogical foundations of Indian planning are noteworthy lest an impression prevail that it was based on political whims and tancies. Furthermore, Indian planning has been a total exercise where the

interdependence of agriculture, industry, services, education etc. has all along been recognised. It has also accommodated to economic circumstances from time to time. This will be seen in the analysis that follows.

In the early post-Independence years the economy was subjected to severe constraints. The per capita income was low leading to a low saving rate and consequently low capital formation. Early planning addressed itself to stepping up the generation of saving through the direct intervention of the state. This related not just to investment in infrastructure but also industry.

"Indian planning has been a total exercise where the interdependence of agriculture, industry, services, education etc. has all along been recognised. It has also accommodated to economic circumstances from time to time".

The Industrial Policy Resolution of 1956 laid down that the government would not merely restrict itself to infrastructural areas like telephones, banking and railways but also enter fields of industry, such as heavy machinery, heavy electricals, iron and steel. It later even entered the electric bulb and watch industries.

This policy resolution was in fact an accommodation to the vicious circle of a low propensity to save leading to a poor rate of capital formation. It gave rise to the notion that the "commanding heights" of the economy should be with the public sector and that the "concentration of power and wealth" in private hands was socially undesirable. In 1966 Mr. Ashok Mehta the then Deputy Chairman of the Planning Commission propounded that:

> "Self-reliance not only means freedom from dependence on foreign aid but also involves the establishment of an acceptable minimum standard of living for the masses and a continuing rise in this standard. With self-reliance, therefore, has been linked the capacity of self-sustaining growth. This means that the objective is not only to take the country towards freedom from dependence on external aid for its economic development but also to generate domestic capacities that will enable it to have a steady and satisfactory rate of economic growth without dependence on external aid."

In concrete terms this outlook was reflected in a growing percentage of the total Plan outlay going into the public sector right upto 1980.

It also meant that this growing magnitude of public sector outlay was policy-driven and not market-driven. The market-driven portion was confined largely to the private sector and was determined by interest rates, return on capital, availability of institutional and bank finance and the share market. While private sector investment grew from Rs. 1,800 crores in the First Plan to Rs. 1,68,148 crores in the Seventh Plan its importance in the overall economy, i e. in relation to the GDP continued to remain small (about 4%) upto the Fourth Plan, which subsequently increased to 10.5% in the Seventh Plan.

In terms of contribution to GDP by the two sectors it is important to note that between 1980-81 and 1987-88 the public sector contri-buted 23.2 percent and the

Investment in public and private sectors

(Rs. Crores)

Five-Year Plans	*First*	*Second*	*Third*	*Fourth*	*Fifth*	*Sixth*	*Seventh*
Public Sector	1560	3731	7180	13655	36703	84000	154218
	(41.5)	(48 0)	(56.6)	(55.2)	(55.2)	(45.4)	(44.3)
Private Sector	1800	3100	4100	8980	27048	74710	168148
	(47.9)	(39 9)	(32.3)	(36.3)	(40.7)	(40.3)	(48.3)

Note: Figures in brackets are percentages of total outlay

Investment in the private sector as percent of GDP

Five-Year Plans	*First*	*Second*	*Third*	*Fourth*	*Fifth*	*Sixth*	*Seventh*
Percentage	3.6	4.7	4.1	3.9	6 6	8.2	10.5

Gross domestic saving as percentage of GDP

Five-Year Plans	*First*	*Second*	*Third*	*Fourth*	*Fifth*	*Sixth*	*Seventh**
Public Sector	1.7	2.1	3.4	2.9	4.6	3.6	2.6
Private Sector	8.7	10.3	10.9	14.5	17.2	16.5	18.3
Total	10.4	12.4	14.3	17.4	21.8	20.1	20.9

* Upto 1987-88

private sector 76.8 percent. Likewise, the Gross Domestic Saving of the public sector as percentage of GDP was lower than that of the private sector in all the seven Plans as can be seen from the Table (Previous page)

This is not to argue in favour of one sector versus the other. The importance of the public sector cannot be measured merely in terms of profits or losses. Its focus must necessarily be on creating a viable and robust infrastructure which it has largely succeeded in doing and succeeded at a time when the economic circumstances were least conducive to capital formation.

"The importance of the public sector cannot be measured merely in terms of profits or losses. Its focus must necessarily be on creating a viable and robust infrastructure which it has largely succeeded in doing and succeeded at a time when the economic circumstances were least conducive to capital formation."

If we were once again to examine the notion of accommodation to circumstances we would find a major shift between the early Plans and the Seventh Plan Investment outlays in the early Plans were policy-driven. They had to be so since the markets, per capita incomes, availability of savings etc. were unequal to the task of achieving the desired capital formation. Consequently the government resorted to various methods of forced saving and investment in order to jolt the economy forward. Once this process was set in motion it continued through the early Plans tempered by politics, droughts, wars, inflation and so on but without any fundamental shift till the mid-80's. Thereafter a fresh look was needed in the light of altered circumstances. The market forces now had changed substantially. Over one hundred million consumers could be definded as the middle class demanding a wide range of consumer goods like TV sets, 2-wheelers and appliances. The multiplier-cum-accelera-tor effects of this were felt not only by the private and public sectors but more importantly by the service sector. In fact in the Seventh Plan the ratio of public sector to private sector investment was reversed, i.e. 47.8 percent in the public sector and 52.2 per cent in the private sector

The changing economic circumstances have given rise to a number of policy changes. Public sector enterprises with a good track record have entered the capital market by floating non-convertible bonds. Towards the end of the Sixth Plan the joint sector concept came into being combining State ownership with the profit motive. The appointment of private industrialists on the Boards of public sector organisations in varying capacities is becoming more common place. The areas traditionally reserved for the public sector like power generation, tele-communication, oil exploration, refining of crude oil, defence production, construction of national highways, and bridges have been opened up to the private sector. Likewise, there are increasing instances of loss making public sector enterprises being offered to the private sector. In this background "nationalisation" is becoming an outmoded word and its relevance is seen largely in the context of protecting employment of workers.

In essence this reflects the fact that investment is now increasingly market-driven rather than policy-driven; once again an accommodation to economic circumstances. That is not to say that policy-driven investment will ever become zero or non-existent. There is still a vast segment of the population which is below the poverty line or otherwise socially disadvantaged. This segment can neither respond nor be left to the mercy of market forces. However, to the extent that market driven-investment rises without causing an undue strain on the disadvantaged sections of the population it is a matter for satisfaction. Looking into the future this trend should encourage foreign investment within the country. The article "The Rush to India" in the TIME magazine of June 12, 1989, states that "Once perceived as inward looking, protectionist, suspicious, fussy and just cumbersome, India is awash in Western capital these days. Lured by liberalizations that offer foreign enterprises greater control over local operations and by the opportunity to sell to a large and expanding middle class, outside investors are rushing towards a door that has opened perceptibly....."

"Towards the end of the Sixth Plan the joint sector concept came into being combining State ownership with the profit motive. The appointment of private industrialists on the Boards of public sector organisations in varying capacities is becoming more common-place."

Despite these positive developments and specially because of a growing domestic market it is important to recognise a long standing problem to which the

Balance of Trade

(Rs. Crores)

Year 1950-51	1960-61	1970-71	1980-81	1984-85	1985-86	1986-87	1987-88
–48	–475	–422	–5967	–6721	–9686	–9354	–6658*

* Provisional

Indian economy has not effectively accommodated. This relates to the balance, of trade which has consistently been adverse. (Table in previous page)

A positive balance of trade is the hallmark of a robust economy. In simple terms this means that India must make the presence of its goods and services felt in the world market. In recent years there has been a perceptible change in the structure of foreign trade. Exports of value added items in garments, gems, jewellery and engineering goods have shown a rising trend. Primary and traditional goods have yielded pride of place to modern industrial products. In 1987-88 exports went up by 26.4 percent as against 14.3 percent in 1986 87 These are encouraging developments. However, a more focussed approach to exports along with an attitudinal change on the part of the entrepreneurs is needed. This involves an accent on quality, delivery and service. Perhaps, a handful of daring entrepreneurs will set the pace and change the very character of the Indian economy.

In summing up, an accommodation to economic circumstances has been a central theme of Indian planning over the long haul. This is a tribute to the pragmatism of the planners. Even political ideology has changed with time. The challenge now before us is to take advantage of global circumstances in such a manner that India becomes a major economic power.

(Contd. from page 48)

Privatisation of education is writ large in the Approach Paper. It is the claim of the Government that free education will be given to all Indian children upto the age of 14 in these privatised schools ? Everyone knows that it is beyond the means of the middle class to secure admission in the Nursery Schools or Primary Schools run by religious and other agencies Christian, Hindu or other Instead of tackling these challenges to secularism and democratic access to education posed by private agencies in the field; the NEP indulges in platitudes, homilies and starry statements. The State retreats from its obligation to offer free and compulsory education in the primary and secondary stages and runs away from controlling the black marketing features of collegiate education with the result that the ghastly spectable of capitation exploitation and student frustration, not the golden vistas of socialist hope and secular culture, are what we see all round.

Verbal abundance about what needs to be done is obviously available as the following passage from the Seventh Five Year Plan demonstrates:

> "It is also necessary to emphasise the non-monetary inputs in educational development, i.e., better planning, advanced technologies and practices, careful block level and institutional planning, and school mapping, better systems of supervision and administration; monitoring and evaluation; a good information system, dedicated efforts by teachers, students and educational administrators; intensive utilisation of existing resources and facilities; and above all, commitment and active involvement of the local community. Educational research and training and planning and administration of education need to be streamilined. The State level capabilities particularly require to be built up under the leadership of the National Council of Educational Research and Training and National Institute of Educational Planning and Administration." Seventh Five Year Plan-Vol. II-Page 264."

But by your actions you are judged, be your words what it may The best critique of our poverty of performance is the fact that the priority assigned to education in the percentage of allotment in the annual budget is going steadily downward.

With all these flaws, it is heartening that education is receiving national noises, even high-level attention, with educationists producing alternatives. □ □ □

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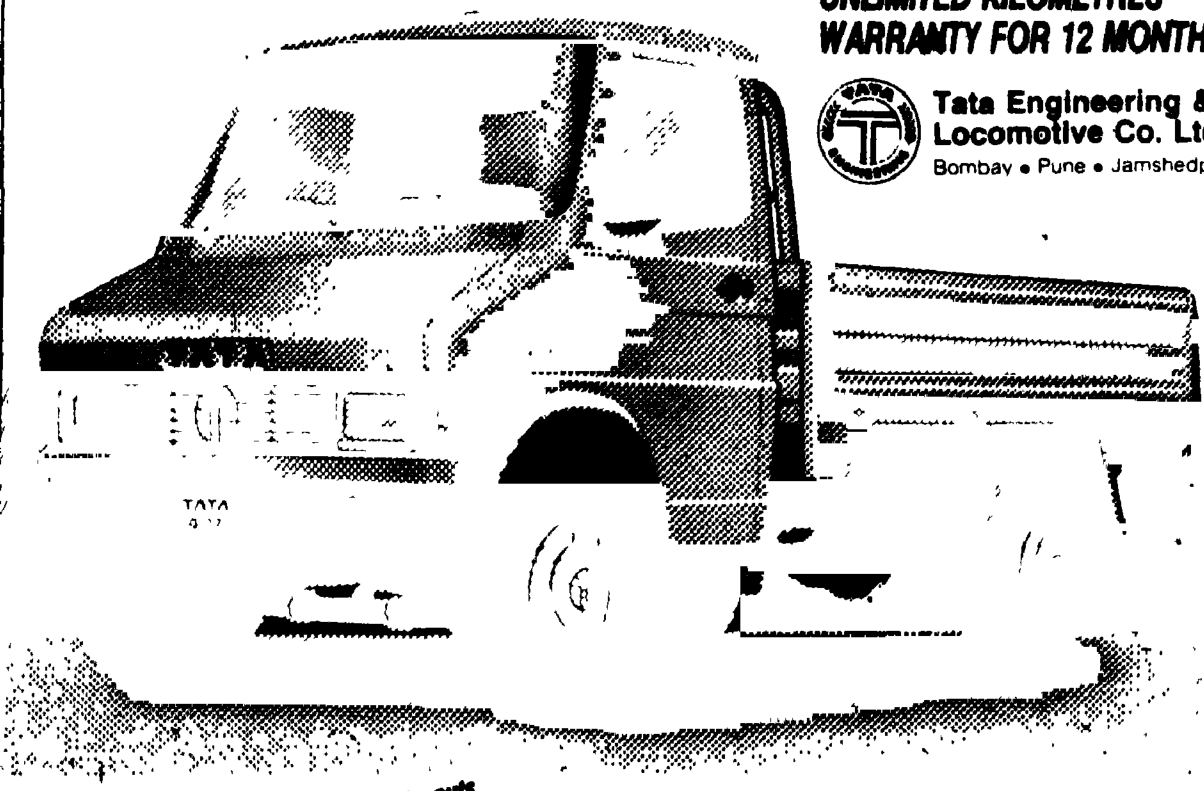
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India moves ahead in technology

Dr. P.J. Lavakare & R.R. Gulati

A country's progress today is measured in terms of its scientific and technological advancements. If we accept this as standard, the advances made by India in the spheres of technology are definitely impressive when compared with other developing countries of the world. We have huge machines which produce machines for both big and small industries. Yet, the authors of this article maintain, we are not investing adequately in the fields of Research and Development. We have to go a long way to catch up with the standards set by advanced nations of the world where the private sector itself earmarks considerable amounts for R&D efforts. For rapid modernisation, the authors assert, import of technology is unavoidable. But, it has been pointed out, the imported technology has to be modified and absorbed in such a way that we need not have to import it again. The authors have presented an optimistic view based on the various activities being carried out in our laboratories.

SOON AFTER INDEPENDENCE, IN AUGUST 1947, the Government of India embarked upon a planned approach for socio-economic development of the country. There was a tremendous euphoria about national development. The political leadership provided by Pandit Nehru, the first Prime Minsiter of India, set about several new approaches for socio-economic development of the country. He had his own vision of developing India as free, democratic country based on the pattern of a socialistic society. His faith in using modern technological developments was so strong that he attempted to take up the nation building activity through two independent approaches both involving use of science and technology and to both of which he was totally dedicated.

In the first approach, technological developments were to be brought about through the process of industrialisation, emphasizing the development of the heavy industry sector. The second approach of technological development laid emphasis on building competence and expertise in various branches of science and technology by creating appropriate infrastructures in the form of chain of National Laboratories and Scientific Departments/Organisations (e.g. Council of Scientific and Industrial Research (CSIR), Department of Atomic Energy (DAE), Defence Research & Development Organisation (DRDO) etc. The present article will examine the technological developments which have taken place in India through these two separate approaches and based on the assessment of these developments,

some suggestions are made for future approaches to technological developments in the country

the heavy industry approach

Recognising the need for investment in heavy industry which would ultimately provide goods and services for our large population and also provide basic infrastructure for a socialistic development, the Nehru Mahalanobis model of planning emphasise the role of heavy industry in the national development plans. The Government of India Resolution of 6th April, 1948, outlined the policy which was proposed to be pursued in the industrial field. The

"Unfortunately, when the programme of establishing heavy industry in the country was being initiated, either there was not sufficient number of S&T manpower available or somehow the then existing S&T manpower was also not geared towards absorbing the turn-key technology projects which were being introduced in the form of heavy industrial units."

Resolution emphasised the importance to the economy of securing the continuous increase in production and its equitable distribution and pointed out that the State must play a progressively active role in the development of the industry. It identified certain areas of monopoly for the Government while others were left open to private enterprise The Industrial Policy Resolution of April, 1956 further reiterated the national objectives to accelerate the rate of economic growth and to speed up industrialisation and, in particular, to develop heavy industries and machine making industry, to expand public sector, and to build up large and growing cooperative sector While the private sector did have an opportunity to develop and expand, it continued to be restricted to areas in which the Government did not give the highest priority and where large capital investments were not required. Major sectors like iron and steel were reserved in the public sector with direct control under Government Several collaborative programmes with different developed countries were initiated to set up major steel plants in the country. Pandit Jawahar Lal Nehru took personal interest in the development of the heavy industry and in the setting up of major industrial infrastructure under the auspices of the Government. Over the four decades, we have seen the growth of a sector like steel which has resulted in the production figures increasing from 1.04 million tonnes in 1950-51 to 7.8 million tonnes in 1984-85. While the absolute quantity of the production output is certainly not large by international standards, but the growth certainly indicates the level of technological development taking place in the country. It is, however, to be pointed out that this development has still remained basically isolated from indigenous technological developments in our national laboratories and has resulted largely from the turn-key projects established by our foreign collaborators though, to the credit of Indian manpower and managment it must be said that such a development was made possible as a result of their deep committment and skills.

indigenous S&T efforts

While the Heavy Industry approach was being introduced, Jawaharlal Nehru was also conscious of the fact that India must grow its own capability in various fields of Science and Technology so that future technological development could be on the basis of indigenous S&T efforts. He encouraged scientists like Homi Bhabha to grow areas of Science and Technology in the country which would be useful in the long term process of national development. For this purpose, a forward looking approach was encouraged by Nehru, This forward looking approach of bringing about technological development in India led to the setting up of Council of Scientific and Industrial Research (CSIR) and its chain of national laboratories, the Department of Atomic Energy (DAE), Defence Research and Development Organisation (DRDO) etc These organisations were expected to contribute to major technological developments in the future and as one sees in perspective, indeed they have done so.

Unfortunately, when the programme of establishing heavy industry in the country was being initiated, either there was not sufficient number of S&T manpower available or somehow the then existing S&T manpower was also not geared towards absorbing the turn-key technology projects which were being introduced in the form of heavy industrial units. The technological development governed by the Industrial Policy Resolution grew in isolation of the growth which was being planned simultaneously through the efforts involving institution and infrastructure building in various areas of Science and Technology To this extent, the Industrial Policy Resolution (IPR) had concentrated its attention mainly on achieving economic growth through the direct process of industrialisation Though its emphasis was on social and economic policies, it did not give adequate attention to complex issues connected with indigenous technological developments using the scientific and technological

"The key to national prosperity, apart from the spirit of the people, lies, in the modern age, in the effective combination of three factors, technology, raw materials and capital of which the first is the most important since creation and adoption of new scientific techniques can, in fact, make up for a deficiency in natural resources and reduce the demands on capital. But technology can only grow out of study of Science and its application."

infrastructure which was being developed simultaneously. Around the same time, the Scientific Policy Resolution (SPR) of 1958 was approved by the Parliament, which emphasised the role of fostering and sustaining the cultivation of Science and Technology research in all its aspects-pure, applied and educational. The SPR did not specifically refer to the IPR though there were expectations that the aims of the scientific policy would be in general "to secure for the people of the country all the benefits that can accrue from the acquisition and application of Science and Technology". The Scientific Policy Resolution has also acknowledged that "The key to national prosperity, apart from the spirit of the people, lies, in the modern age, in the effective

"As a result of introducing new techniques involving use of high yielding varieties, coupled with appropriate management practices, extension programmes and inputs in the form of fertilisers, pesticides, etc. all of which are very heavily dependent on technology —our food production has increased from 31 million tonnes in 1950-51 to 152 million tonnes during 1986-87".

combination of three factors, technology, raw materials and capital, of which the first is the most important since creation and adoption of new scientific techniques can, in fact, make up for a deficiency in natural resources and reduce the demands on capital But technology can only grow out of study of Science and its application"

In spite of this acknowledgement, one sees that the Industrial Policy Resolution and the Scientific Policy Resolution did not complement each other in the overall national objectives right from the beginning No doubt Jawahar Lal Nehru was committed to both these approaches, namely, growth of Science and Technology sector as well as the growth of industrial sector with the common zeal and enthusiasm, but the events over the last four decades have shown us that these two Policy Resolutions have somehow not been integrated into our socio-economic development in a truly scientific and harmonious manner One could say that, as a result, over the last four decades or so, we have seen technological developments in India progressing in two separate directions It is hoped that in the coming decade we truly realise the importance of integrating these two streams of developments so that a symbiotic growth results in a genuine and dynamic technological development involving interaction among eduction, research and industry, which is the only way that a vibrant technoloical development could be sustained

indicators of technology development

In order to make some quantitative assessment of technology development during the past four decades, it may be worthwhile looking at some indicators which could be quantified. In a developing society, normally the socio-economic impact cannot be easily quantified, nevertheless a look at some of the indicators would no doubt give an idea of the efforts put in by Government towards technology development and the resulting social changes.

Technological developments have made a major impact on the agriculture sector. As a result of introducing new techniques involving use of high yielding varieties, coupled with appropriate management practices, extension programmes and inputs in the form of fertilisers, pesticides, etc.-all of which are very heavily dependent on technology-our food production has increased from 51 million tonnes in 1950-51 to 152 million tonnes during 1986-87. The technological developments in agriculture have clearly shown that new technologies can be absorbed and assimilated in the Indian socio-cultural mileau provided appropriate organisational structures are introduced as was done through the enormous efforts of Indian Council of Agriculture

Besides agriculture, there has been significant growth in several areas of technological development such as nuclear and space science and technology, electronics etc As a result of our own efforts in these major sectors, India is now in a position to design and fabricate most sophisticated nuclear power plants, satellites, launch vehicles and sophsticated tracking systems involving complicated designs of antenna systems It is also a matter of pride that India today is able to produce a wide range of products ranging from electric fans, sewing machines, bicycles, scooters, two-wheelers and other motorised vehicles, to radar Systems, tanks and aircrafts etc. These capabilities and related technological developments are clearly the results of a committed and dedicated policy efforts of the Government of India towards pursuit of Science and Technology in consonance with Scientific Policy Resolution of 1958 and the policies adopted for industrial growth. The industrial developments have also shown our sizeable contribution in the chemicals and allied products sector which accounts for about 54% of total exports of the technology intensive industries.

Our industrial development has not been limited only to large factories involving heavy plant and machinery but has also included a very sizeable growth of small scale sector and village industry which is relevant to our large rural population. Our small scale sector has grown considerably over the years and today in the industrial turnover it contributes about 30-35 per cent to the total turnover from the industry. Inspite of the sizeable growth in the total industrial production, the fact that we have been able to maintain the share of the small scale sector shows the benefits which have accrued to a broader cross section of society through larger employment generation, typical of small scale sector.

In order to build up an indigenous scientific and

technological capability, the resources provided by the Government have been enhanced significantly over the past couple of decades. India's expenditure on R&D has increased from 0.2% of GNP in 1958-59 to 0.5% in 1975-76 and more than 1% in 1986-87. Simultaneously, in the last forty years or so, 156 universities, affiliating about 2000 colleges, five institutes of technology (comparable to the best in the world), 170 engineering colleges and about 140 medical colleges and more than four hundred ploytechnics have been established and about 150,000 qualified scientific and technical personnel are produced every year The total stock of scientific and technically qualified manpower is estimated at 3 5 million. These figures do indicate the extent of overall technological development in the country

"Indian companies spend about 0.7% of their sales turnover on R&D whereas in many developed countries, the corresponding figure is of the order of 1-3%. In addition, another important feature in many of the developed countries is that R&D expenditure incurred by industry is much more than by the Government Institutions".

Seen in this context, India occupies a unique position among the developing countries However, in so far as developed countries are concerned, we are no where near them in as much as these countries devote 2 3% of their GNP on R&D and India's stock of S&T personnel as a proportion of total population does not compare favourably with these countries Nevertheless the Indian effort really goes to show our commitment to undertaking the task of technological development over the last four decades

linkages between S&T and industry

In the context of this national S&T capability, one has observed that the development resulting from industrial growth is not always based on indigenous capabilities but is based on foreign collaboration and implementation of turn-key projects which may not necessarily demonstrate the capability of our own technological development There is a need for greater linkages between our own S&T efforts and the production programmes of industry The government has been quite alive to the situation and recognising the fact that industrial development which is not totally based on indigenous efforts would not be an ideal example of technological development, increasing attention is being given to carrying out indigenous R&D efforts within the industry. A number of measures have been taken from time to time to motivate the Indian industry to build indigenous R&D capabilities. Since 1973, a scheme of recognition of In-house R&D Units in the industrial sector is being operated by the Department of Science and Technology, (This activity is now being looked after by the Department of Scientific and Industrial Research). One of the objectives of the scheme is to provide liberalised import facilities to recognised R&D Units for equipping their laboratories with equipment, components, raw materials etc. necessary to carry out R&D work in order to update the technology and effecting improvements in the manufacturing process, introducing new products, processes, developing substitutes for imported items etc In addition certain fiscal incentives for scientific research are also available to the industrial units. These are reviewed from time to time and are enhanced/reduced depending upon contingency. In addition subject to certain conditions, preferential treatment is being given to In-house R&D Units for commercial exploitation of the results of research Further in order to provide recognition to the efforts of the industry towards innovative research and technological development, a number of awards have also been instituted Today, the industrial R&D efforts contribute roughly 20% of the total national R&D efforts in various sectors The total number of In-house R&D units, which were hardly 200 in 1973, grew to around 600 by 1980, to around 900 in 1985, and, currently there are 1080 of them This clearly shows the increased consciousness of bringing about an industrial development through our own indigenous R&D efforts Nevertheless our industrial R&D units have a long way to go to catch up with the standards set up by most of the developed countries Indian companies spend about 0 7% of their sales turnover on R&D whereas in many developed countries, the corresponding figure is of the order of 1-3% In addition, another important feature in many of the developed countries is that R&D expenditure incurred by industry is much more than by the Government Institutions. However, this is not so in the Indian situation as has already been highlighted earlier It is thus apparent that if our technological development through industry has to make a dent, more and more efforts would have to be concentrated in this area to bring about a closer linkage between our indigenous S&T efforts and the process of industrialization

On the one hand, we see some of our own indigenous efforts of technology development (e g Agriculture, Atomic Energy, Space, Defence Research etc) as a result of the enormous S&T efforts being carried out in the country and on the other hand we see several signs of foreign dependence with several areas of industry which are based on imported technologies The number of foreign collaborations which are being entered into for industrial production is increasing over the years from 82 in 1956 to 903 in 1987. Since 1948, the cumulative total of foreign collaboration agreements is almost 12,000 It is recognised that we may have to selectively import some technologies, if rapid industrialisation has to take place based on the principle of modernisation, but we must ensure that technologies so imported are absorbed and assimilated and suitably modified for our own use so that in future one does not have to import the same technology again In order to be able

to do this, greater efforts are required in our own national laboratories and research institutes as well as in the R&D sectors of the industry to bring about an overall technological development which would be truly dynamic and based on internal strength.

Though our scientific community is able to contribute very substantially to scientific knowledge through publication of technical papers, yet not all of this knowledge can be utilised for technological development in the country. The number of patents which are being registered in the country per year, and which also perhaps is an indication of innovation in the country, seems to have reached a plateau (about 1500) which does not portray a dynamic growth required for technological development

"It is recognised that we may have to selectively import some technologies, if rapid industrialisation has to take place based on the principle of modernisation, but we must ensure that technologies so imported are absorbed and assimilated and suitably modified for our own use so that in future one does not have to import the same technology again."

perspective for future developments

Notwithstanding these lacunae in the quality and quantity of the technological development in our country, if one looks at the overall socio-economic index of change over the last four decades, one can clearly see that many of the socio-economic changes could not have taken place but for the role played by technological development in the country Table I clearly shows the impact which the technological development has brought about in the life style of the Indian population.

Perhaps this is the right time, particularly when we are coming to the end of the Seventh Five Year Plan and when the next 10 years are going to bring us into the the 21 st Century, to look at the perspective for the furture development of India and the role which Science and Technology can play in this endeavour. Recently, the Science Advisory Council to the Prime Minister prepared An Approach to a Perspective Plan for 2001 AD and identified the role of Science and Technology in the same Identifying some of the important issues of concern, the report has emphasised that the role of Science and Technology in Perspective Planning needs to be examined in two parts·

(i) use of Science and Technology in planning, particularly for the devleopment of the socio-economic sector; and

(ii) planning for Science and Technology in its various specialised sectors so that not only as a nation do we contribute to the frontiers of knowledge but we are also prepared with the inputs that would be required for the development of the society.

Against this background, the Council has considered some basic issues which in their mind were the most important ones and which would have some bearing on the technological developments in future. These issues are, increased food production, control of population, protection of environment, improving human health, control of hyper urbanisation and reducing unemployment The social sectors which would need massive efforts through technology inputs are those connected with energy, communication, transport, manufacturing, materials, instrumentation and higher education. All of these could provide the infrastructure required for addressing the basic development issues indicated earlier. The report prepared by the Science Advisory Council has identified number of priority areas in the field of Science and Technology where attention would have to be given for indigenous technological development and it is hoped that our future plans will take into account the contribution which Science and Technology can make for achieving our socio-economic objectives and goals for the year 2000 A.D.

Table I

Indicators of Growth

		1950-51	*1986-87*
(1)	Foodgrain Production (Million tonnes)	50 82	144 07
(2)	Principal crop yield per hectare (*Kg per hectare*)	522	1142
(3)	Total Electricity generated (million K W h)	6575	17194
(4)	No of Universities	27	157
(5)	Employment in Organised sector (lakhs)	129	250 6 (1986)
(6)	Percentage of Population below poverty line	N A	37 4 1983-84
(7)	No of literates per thousand population	167 (1951)	362 (1981)
(8)	Birth rate	39 9 (1941-51)	37 2 (1971-81)
(9)	Death rate	27 4 (1941-51)	15 0 (1971 81)
(10)	Infant Mortality rate	N A	97 (1985)
(11)	Expectation of life at birth	32 1 (1941-51)	50 5 (1971-81)

Sources – Indian Planning Experience A Statistical Profile, Planning Commission, New Delhi, February, 89

Our future technological development would continue to be based on policy initiatives enunciated in the Scientific Policy Resolution (SPR), the Technology Policy Statement (TPS) and the Industry Policy Statement (IPS). Greater emphasis would, however, have to be given to implementing our plans through proper organisational and managerial structures Appropriate attention would have to be

(Contd. on page 73)

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Position of Science & Technology in the hierarchy of problems

DR. Pushpa Bhargava & Chandana Chakrabarti

India, inspite of having a proud past of scientific quests and admirable advance in the fields of mathematics, metallurgy and astronomy, stagnated for long on account of several historical factors. With Independence arose the urge for progress, for self-reliance, and we embarked on planned development, with the support of science and technology. Huge investments were made to bring the blessings of science and boons of technology for the uplift of the masses. In certain areas we made real achievements and established our reputation at international level. Yet, the expectations that people had from scientists, were not fulfilled. Dr. Bhargava, Director, Centre for Cellular and Molecular Biology, and his colleague, Chandana Chakrabarti, have, in the following article, discussed in detail the causes and effects of the neglect of science. The authors say that science is usually projected to be a panacea for all ills of society. They point out that solutions to major problems relating to the basic needs of our people do not lie with the scientists; the primary reason for not being able to solve these problems has been the lack of the socio-politico-economic will and not the lack of avilability of solutions. The authors have also cautioned that encouragement of scientific research on one hand, and activities which have no base in science on the other, would lead to a situation in which scientific research suffers and irrational beliefs, religious dogma and superstition flourish.

THE CONCEPT OF PLANNING FOR DEVELOPMENT and for meeting stated social, political, economic and other objectives of a nation is less than a hundred years old: in fact, it has not even celebrated its 75 th anniversary. It is a concept which Lenin gave birth to during the Russian Revolution. It led to the preparation of integrated plans for development of the newly liberated country. It meant taking into

account all the resources (human and material), stating achievable objectives, and then defining the modus operandi which would allow the utilisation of the resources towards achievement of these objectives It was a question of promises made and promises kept In any process of planning, the promises made must be reasonable The more laudable and defined the objectives (from whatever criteria one wishes to lay down), the larger the gap that is intended to be covered by the plan, the more optimal the utilisation of the available resources to cover this gap, and the more workable the strategy is, the greater would be the chances of being able to keep the promises and the better would be the plan This statement also gives us a framework for assessing our programme during a plan period

"Even till today we have not recognised that at any given time in history in any place, there are always a multitude of problems to be solved. What is necessary is to recognise that there are some problems which, if not solved, would prevent other problems from being solved. In other words there is always a hierarchy of problems, such that if the problems at the top of the hierarchy are not solved, the problems lower down the rung of the ladder would not be solved no matter how much resources are put in".

our plans

When we became independent, we decided to adopt the planned approach towards development By then, we had the experience not only of the Soviet Union but also of other countries such as France There is, of course, always some amount of planning in virtually every activity that any individual does However, when we talk of planning in the national context, we refer to an integrated approach towards planning in which targets are set in virtually every sphere of endeavour and resource allocated Our first plan began in 1951, four years after independence The seven plans till now have covered the periods 1951-56, 1956-61, 1961-66, 1969-74, 1974-79, 1980-85 and 1985-90, respectively, 1966-69 being a "Plan Holiday" and 1979-80 being covered by an Annual Plan Our Eighth Plan begins from 1st April 1990

When our First Plan began, while our commitment to certain fundamental values was unambiguous and strong, we were still groping in regard to the mechanisms that we might follow to take care of the plethora of problems that free India faced, in some kind of a logical sequence There was either no focus or too many foci in this respect Often what was decided to be done in the various Plans including the current one-was certainly desirable but the necessary and crucial steps to achieve the objectives were left out of the reckoning, the result was that our success was often more illusory than real. Even till today we have not recognised that at any given time in history in any place, there are always a multitude of problems to be solved. What is necessary is to recognise that there are some problems which, if not solved, would prevent other problems from being solved. In other words there is always a hierarchy of problems, such that if the problems at the top of the hierarchy are not solved, the problems lower down the rung of the ladder would not be solved no matter how much resources are put in You can have the most beautiful table-top but it would not perform its function unless you provide it four legs. A good example in our country would be family planning We cried ourselves hoarse about family planning but have not got anywhere so far The reason is that we have not recognised that unless basic problems such as of water, energy and education are solved, we will never be able to regulate our family size. The only state where we have high literacy in the country is Kerala-and that is where we have the lowest birth-rate in the country today The above mentioned failure of our planning process has had its repercussions in all our activities including science and technology

the background

So much as regards the general perspective of planning in our country since Independence Now, something more specific about science and technology. Let us first look at science

India's glorious past has been largely on account of the advances in mathematics, astronomy, medicine, chemistry and metallurgy in ancient medieval India The Arabic numerals we use today, including zero, were, an Indian discovery, they went to Europe through Arab mathematicians Our ancient astronomers knew how to make calendars, and predict the position of planets and their passage through certain constellations The non-rustable and non-tarnishable iron pillar near Kutub Minar in Delhi is a testimony to the high quality of metallurgical knowledge in India as far back as the 5th century Drugs such as reserpine for high blood pressure, that have been a part of the ancient Indian system of medicine—the Ayurvedic system-have been discovered by the West only in this half-century And our ancestors in the distant past learnt by trial and error how to make dyes, sugar, paper, common salt, perfumes, turpentine oil, firworks, glazed tiles and pottery-and to do it all exceedingly well One cannot but wonder as to how it all came to happen when one looks at the intricacies of the construction of buildings in our ancient city of Harappa (now in Pakistan) more than 4,500 years ago, or at the drainage system in the cities of that period.

Modern science had already taken root in India before Independence C V Raman discovered the effect that goes by his name, by working in India in the laboratories of the Indian Association for Cultivation of Science at Calcutta, and received the Nobel Prize for Physics in 1928 for this discovery. Even before that, another scientific discovery made in

ndia had won a Nobel Prize-that of the life cycle of he malarial parasite by Sir Ronald Ross, an Englishman, t Hyderabad in 1920. Ten Indian scientists had been lected to the Fellowship of the Royal Society before 947, the first one of them being A Cursetjee elected in 841 for his contributions to marine engineering-a ield in which India was at that time considered a eader

In 1947, India had 21 universities, 28 Medical Colleges and 10 Engineering Colleges, the first of hese were founded in 1818, 1835 and 1884, espectively. Besides, there were many subject-riented scientific professional societies that were ictive in 1947

Unlike science of the medieval period-in fact, upto the end of the 19th Century-today's science is entirely funded by public money and s highly institutionalised. Therefore, the people of a country have a right to ask what heir scientists are doing. All of a sudden, in the mid 1960s our people also woke up. They began to ask questions of the scientists".

The seeds of both general and professional education that were sown in the 19th century were hus nourished in the 20th, largely by our own efforts, although at times much of the credit for this was given to the British who did play a role but only to suit heir convenience in relation to the colonial rule Contrary to other places under colonial rule in Asia or Africa, the tradition of scholarship that existed in ndia helped us to assimilate the new educational system within our system and then to make it our own and build on it

Therefore, at the time we became independent we did have a tradition of science in the country In fact, ndia was the only colonial country which, when it became independent, had a notable tradition of science

What about technology ? There our status was miserable at the time of Independence We produced virtually no manufactured goods-not even pens, pencils, paper, nails, needles or clips Our cotton was sent to England to be woven into cloth in the Lancashire mills, which was then exported back to India There were virtually no linkages between science and technology in the country The Tatas had been in the steel industry business for long but without a scientific (research) basis of their own Thus, there was no deliberate nexus between science and technology and no recognition of the role of the science technology nexus in development John Desmond Bernal had published his classic book, Social Function of Science in 1939, but few in our country were aware of it

In the light of this situation, it must be considered a miracle that our planners. duly recognised the role of science in development in our situation-at least in a general way. They recognised that science and knowledge were closely inter-related and that knowledge was power. They understood that we could not maintain our hard-fought Independence truly for long, unless we were pioneers in science as well as technologically independent

And Jawaharal Nehru coined the term Scientific Temper He said, "the applications of sicence are inevitable and unavoidable for all count.ies and people today. But sometimes more than its application is necessary it is the scientific approach, the adventurous and yet critical temper of science, the search for the truth and new knowledge, the refusal to accept anything without testing and trial, the capacity to change previous conclusions in the face of new evidence, the reliance on observed fact and not on preconceived theory, the hard discipline of the mind-all this is necessary, not merely for the application of science but for life itself and the solution of its many problems"

There was thus a general recognition of the need to support science and technology and to inculcate scientific temper or attitude in our people, if our country were to develop and find a place of honour amongst the community of nations. And this has been the hallmark of all our plans so far. Science has received support all through at the macro level This would be clear from Table-I which gives the financial allocation for science in the successive plans

Table I

Expenditure on science and technology during the different plan periods

Five-Year Plan Period	*Expenditure in crores of rupees during the entire period*	*per year*
First Plan (1951-56)	20	4
Second Plan (1956-61)	67	13 4
Third Plan (1961-66)	144	28 8
Plan Holiday (1966-69)	130	43 3
Fourth Plan (1969-74)	373	74 6
Fifth Plan (1974-79)	1381	276 2
Annual Plan (1979-80)	430	430 0
Sixth Plan (1980-85)	3716	743 3
Seventh Plan (1985-90) (outlay)	7496	1499 2

An official seal of approval by the Indian Parliament on the country's commitment to science was put when the Indian Parliament passed the Scientific Policy Resolution in 1958 which stated:

"Science has developed at an ever-increasing pace since the begining of the century, so that the gap between the advanced and backward countries has widened more and more. It is only by adopting the most vigorous measures and by putting forward our utmost effort into the development of science that we can bridge the gap It is an inherent obligation of a ... country like India with its traditions of scholar-

ship and original thinking and its great cultural heritage, to participate fully in the march of science, which is probably mankind's greatest enterprise today.

"The government of India have accordingly decided that the aims of their scientific policy will be:

(i) to foster, promote, and sustain, by all appropriate means, the cultivation of science, and scientific research in all its aspects-pure, applied and educational;
(ii) to ensure an adequate supply, within the country, of research scientists of the highest quality and to recognise their work as an important component of the strength of the nation,
(iii) to encourage and initiate, with all possible speed, programmes for the training of scientific and technical personnel, on a scale adeqate to fulfil the country's needs in science and education, agriculture and industry, and defence,
(iv) to ensure that the creative talent of men and women is encouraged and finds full scope in scientific activity,
(v) to encourage individual initiative for the acquisition and dissemination of knowledge, and for the discovery of new knowledge, in an atmosphere of academic freedom, and
(vi) in general, to secure for the people of the country all the benefits that can accrue from the acquisition and application of scientific knowledge"

"Today, we have the expertise to do extremely complex jobs within the country with totally indigenous materials and know-how. We can build bridges and steel plants, and set up refineries to process crude mineral oil. It is, therefore, not surprising that even in the highly competitive international market, Indian firms have won many major contracts of say 100 crores or above each, for sophisticated technological jobs in areas such as transportation or power generation".

the expectations

This is what the Government and the Parliament did. it gave support to science in a way that would have been the envy of any country-specially with the limited resources We had But, then what have been the expectations of the people; and of the Government and the Parliament, from the investment that we made in science through the various Plan periods ?

While Jawaharlal Nehru, more than any other political leader of our times, was acutely conscious of the role that science and technology could play in the nation's realising its objectives, and the deep incursions they were making in our everyday life and thought and into every aspect of our activity-be it moral, social, ethical, legal, economical or political-the rank and file in the Government, specially the bureaucrats with very few but notable exceptions, were largely oblivious of this phenomenon. Science was not something that mattered, even though it was accepted that it was worth supporting, it was, perhaps, something nice to have around; occasionally it might even yield "result" ! And in any case, we needed trained scientists to run our industry and to build dams, and to run our health service and so on Otherwise, science was not different from music, painting or poetry Lal Bahadur Shastri who succeeded Jawaharlal Nehru did not, it is believed, use the word 'science', in any of his speeches during the first six months of his tenure as the Prime Minister– and here was a man whose many personal qualities were so utterly admirable.

It was, therefore, not surprising that initially, after our independence, the people of our country were also largely apathetic to science-dichotomous as it might sound with the support it had at the hands of Nehru The consequence was that the scientists were left to themselves Their leaders such as Homi Bhabha, Husain Zaheer, Vikram Sarabhai, P C Mahalonobis, Meghnad Saba, B C Guha and K S Krishnan had direct access to Jawaharlal Nehru While this was, in a way, good for the scientists, in other ways it led to a certain amount of complacence amongst the rank and file of scientists Accountability was not demanded of the scientists by the Government and the people, this was reflected naturally in the attitude of the scientists as well

Unlike science of the medieval period-in fact, upto the end of the 19th Century– today's science is entirely funded by public money and is highly institutionalised Therefore, the people of a country have a right to ask what their scientists are doing All of a sudden, in the mid 1960s, our people also woke up They began to ask questions of the scientists We were a nation in a hurry Our politicians had learnt how easy it was to make promises that could not be kept They played on the credulousness of the people But, of course, the promises could not be and were not kept So they had to find a scapegoat. Science came in very handy. The people of the country rightfully began to ask questions of the scientists and to look introspectively into the nation's scientific effort But science was something that neither the politicians nor the people quite understood. it was certainly the least understood activity out of all those in which significant investments had been and were being made Consequently, science became the scapegoat for the people, for the politicians, and for the Government; and the bureaucrats took particular delight in aiding and abetting this onslaught on science for they had never liked the scientists "usurping" their role

Questions began to be asked as to what our

scientists had done. Those who could have answered such questions adequately such as Bhabha, Sarabhai, Krishnan, Saha, Mahalonobis, B C Guha and Husain Zaheer, were no longer with us on the scene. Thus a major argument arose in the country in regard to basic science What use was basic research to the layman ? Even as distinguished a physicist as P M S Blackett-a British Nobel Laureate-felt that India should leave basic research to the more developed and affluent countries and should engage itself in appropriate technology which, most inappropriately, had the connotation of "low" technology By this time mediocrity had crept into science as much as anywhere else It was, therefore not surprising that while there were a few voices of concern and dissent,

"It has not been recognised that solutions to the major problems pertaining to the basic needs of our people (that is, food, housing, clothing, health, education and social justice) do not lie with the scientists; the primary reason for not being able to solve these problems has been the lack of the socio-politico-economic will and not the lack of avilability of solutions".

by and large the scientists failed us, demonstrating inadvertantly that there was no scientific community in the country that could put a case for science (as contrasted to technology) and defend it Technology was now easier to accept due to the success, for example, of the Green Revolution

It was at this time that our country's planners took real note of science, and science began to be planned-unfortunately in the same way as anything else People began to raise expectations from science which could never be met "Science for villages" "Science for women" "Science for the under-privileged" Science began to be *heavily* planned, the most important voice in the process, in the absence of a viable scientific community, being of those who had political power and influence and who unfortunately, by and large, did not understand the nature, structure and function of modern science. There is, of course, no question that planning per se, is desirable, provided the objectives are right, workable and in the national interest But that did not seem to be so. Those concerned, by and large, did not understand that there was a difference-a very important difference-between science and technology, that the motivation for science lies in the curiosity built in our genes, while the motivation for technology lies in material need and the desire to better oneself economically, socially and politically With science confused with technology, undue expectations began to be raised from science. It was de facto, if not de juro, maintained that all science had to be related to one immediate material need of the people of our country or another

We can, therefore, record the period between 1965 and 1970 as the period when, in our country, sicence began to be related to practical end objectives, with science for science's sake relegated to the background and with the emphasis virtually totally shifted to 'use' (that is to technology or development) from its original and appropriate base in curiosity. This emphasis on end-use at that time is borne out by the following observation. Till 1970 we had only one regular scientific department for science, the Department of Atomic Energy founded in 1948, one research organisation (Defence Research Development Organisation) which was a de facto department of the Govt. of India, one non-autonomous council (Indian Council of Medical Research), and two autonomous councils (The Council of Scientific & Industrial Research and the Indian Council of Agricultural Research), both of which had Directors-General who were also regular Secretaries to the Government of India This made a total of five Scientific organisations, departments or agencies, excluding the University Grants Commission Basic scientific research was an acknowledged, integral and important part of the activities of all these organisations upto that time Look at what happened subsequently Department of Electronics in 1970 Department of Space in 1972, Department of Science & Technology in 1976, Department of Environment in 1980, Department of Ocean Develoment in 1981, Department of Non-Conventional Energy Sources in 1982, and Department of Biotechnology in 1986 And not one of these Departments have the charter of doing basic research for research's sake All of them are user-ori-ented excepting, to some extent, the Department of Science & Technology

With the increasing investment in scientific and technological research (Table-I) and the incresing emphasis on user-oriented outcome or end-result it became necessary to plan science and to plan it in a way that the outcome met the increasing expectations of the people from science The need for involving a scientist in the process of planning was, therefore, immediately recognised J C Ghosh became the first scientist-member of the Planning Commission From that time onwards, Planning Commission has always had a scientist as one of its members except during 1974-80

In order to ensure better coordination of scientific endeavour in the country, primarily from the point of view of end-use, and to give future direction to science and technology, other steps were also taken An Apex Committee for Coordinating Scientific Research (ACCSR) was set up in 1948. This was followed by the Science Advisory Committee to the Cabinet (SACC, 1956-68); the Committee on Science and Technology (CCST; 1981-85); a second Science Advisory Committee to the Cabinet (SACC; 1981-85), and Science Advisory Council to the Prime Minister (SAC-PM, 1986 to date) A special position of Scientific Adviser to the Prime Minister was created in 1986 and is occupied by one of the county's distinguished and experienced scientists The explicit emphasis on end-

use in scientific research began with the first COST and the NCST; basic research was, at most to be tolerated and certainly not actively encouraged, no matter how good it was With this came time targetting, bar charts, projectisation and almost everything else that is required for optimising production in a factory

The first set of separate plan documents for science were brought out in 1973-74. The exercise became a standard practice subsequently Since then, science has been an important integral component of our plans-the 5th, 6th 7th and 8th plans The benefits have been many The country's budget for science has increased phenomenally during this period (Table 1) The number of working groups that related to science in the Planning Commission has consequently increased rapidly In the document outlining the science and technology component of the Seventh Plan, it was pointed out for the first time that science must not be considered as an activity apart but must permeate all other activities of the Government In other words, science must become integrated with the activities of the other ministries.

"One of our greatest misfortunes has been that we have not fully recognised and understood the link between education and science-that the two can develop only hand in hand; and we have not determined rationally and objectively the kind of education-system, curriculum, syllabi-that would be most suitable for us".

In a nutshell, the result of the Planning process in science and technology was that expectations were raised from the scientists that they would solve the problems of this country ! It is interesting that the expectations were not that Indian scientists would do outstanding or world-class science Science was called upon to yield results, and finding an answer to a major question in fundamental science was not thought of as a worthwhile result Therefore, it is not surprising that the country did not win a Nobel Prize during this period. We certainly did not plan for it by making the objectives and the environment conducive for it. Against these expectations, what have been our achievements ?

the achievements

Let us first look at technology and development work.

As against the situation in 1947 when India virtually produced no finished product, today India is perhaps the only country in the world where every item of consumer goods that one buys in the open market is made, the range and quality of these goods is comparable with what is obtained elsewhere in the world. We are rarely a few years behind in terms of marketing of new materials or products. True that all the steps that are required for the production or putting together of the final product are not always carried out in India, but the fact is that in many cases they are And in every case, at least one step-the final step-is carried out within the country. So today we make cars, refrigerators, radios, television sets, telephones, computers and calculators, heavy machinery, electrical and electronic goods, textiles, watches, locomotives, aircrafts, helicopters, drugs and pharmaceuticals, cosmetics, chemicals, instruments, steel, super-alloys, fertilizers, and a whole range of items of every day use as well as highly sophisticated high-technology items Not only that, whereas in 1947 India exported no finished product at all, today it exports more than 150 different categories of finished proudcts, including some highly sophisticated ones In some areas of science and technology which did not even exist 40 years ago, such as computer software, India's capabilities are as good as anywhere else in the world

Today, we have the expertise to do extremely complex jobs within the country with totally indigenous materials and know-how We can build bridges and steel plants, and set up refineries to process crude mineral oil It is, therefore, not surprising that even in the highly competitive international market, Indian firms have won many major contracts of say 100 crores or above each, for sophisticated technological jobs in areas such as transportation or power generation

The policy of self-reliance has thus paid many dividends

What about science or basic research ! Thirteen Indian scientists have been elected as Fellows of the Royal Society from 1970 onwards, while only six were elected between 1947 and 1970, and only ten between 1841 and 1947, and there have been also others in the country whose contributions in the last three decades or so, have been outstanding from stringent international scientific criteria

the failures

Some successes, yes But on what scale in comparison to the size of the country ? This is where we have faild Peaks have been there in science-just as good or almost as good as anywhere else-but they have been very few Nor have we done very much creative work in technology where we have been followers and not leaders. The numbers of patents from a small country like Japan that are internationally used is several orders of magnitude higher than that of our country

We believe that the following factors have contributed to our abovementioned failures in respect of science and technology

(a) Science has often been made out as a panacea for all ills of the society at large Therefore, when these problems have not been solved, science has been blamed. It has not been recognised that solutions to the major

problems pertaining to the basic needs of our people (that is, food, housing, clothing, health, education and social justice) do not lie with the scientists; the primary reason for not being able to solve these problems has been the lack of the socio-politico-economic will and not the lack of availability of solutions. The situation has been made worse by the careeristic attitude of a vast proportion of our scientists, who have refrained from questioning what the politicians and the bureaucrats say about science, that has seemed to them the easier way to name, fame, power and prestige With objectivity and quest for knowledge relegated to the background, the difference between a politician and a scientist has been often obliterated And with the lack of professional ethics amongst the scientists, and of a scientific community in the country, protests have been frowned at and efforts made to bring down excellence to the level of mediocrity

(b) On account of the trends of events since the late 1960s to which a reference has been made above, and the continuous increase in the ratio of mediocrity to excellence in respect of the quality of those who engage in scientific and technological research and of their output, the voice of those from amongst the scientific community who have felt that this country has no or little place for basic research, or who have at most paid lip service to basic research, has become increasingly louder And this has been inspite of the fact that the argument for a country like India doing basic research in a wide spectrum of sciences and technology, has been widely recognised as unassailable Without a strong base of basic research the question of the country ever being a leader in technology would not even arise This denigration of basic research has suited those who have found it to their personal advantage to import technology and to have links with big business abroad Thus the Technology Policy Resolution of Mrs Gandhi's time has been practised largely in default

(c) We have not recognised that doing science today, in the 1980s, is very different from doing it in the 19th century, say, in 1889, We have not understood this changing face of science and, therefore, have been unable to come to terms with what its requirements, implications and applications are This is as much true of the scientists as of the others in the country

(d) We have not, by and large, recognised that historical imperatives operate as much in science as in any other sphere of human endeavour Perhaps, the only time we did realise this was in respect of nuclear energy, and then in respect of space, hence the relative success of our nuclear energy and space programmes We did not do that in time for electronics, computers and material science, and we were two-and-a-half decades too late in biology and a decade too late in biotechnology

(e) We have not understood the difference between science on one hand and technology and developmental work on the other, and often confused one with the other In the formulation and implementation of our science plans we have not realised that the only planning that one can do for ensuring excellence in science is in terms of financial allocation, staff policies, and provision of adequate infrastructure and of the ingredients for the right 'culture', the rest of it must be planned to be unplanned On the other hand, a technology plan must relate to specified objectives Some of these objectives must be, of necessity, short range to take care of the immediate requirements of the people. Others must be long range to take care of the future requirements of the people, and to lead to developments which would provide technological leadership to the country in the community of nations We have never understood the specific requirements for each of these activities-science and the different types of technologies We have not realised that the quantum of investment, the manner and nature of assessment, the requirements in terms of infrastructure and staff, the nature of institutions to be built for the particular purpose, and the nature of both internal and external linkages, would vary with the kind of scientific or technological activity one is dealing with, and would be different for basic research (that is science), developmental work related to meeting specified short-term needs of the community, and pioneering technological research which would form the base of technological developments of tomorrow which cannot be fully anticipated

(f) One of the basic lacuna in our planning process for science has been lack of setting up of a system for continuing assessment and evaluation under the auspices of the Planning Commission It sounds strange that an organisation should make an allocation of financial resources without having the machinery to assess whether the allocations have been appropriately utilised in the past Ideally, the machinery should be such that assessment is made on a continuing basis to allow mid-stream adjustment of financial allocations depending on successes and failures, in real time on a continuing basis Indeed, on many an occasion the statement of policy as made by the Planning Commission in the Plan (or related) documents, has been

admirable. However what was eventually done during the Plan period had little relation to what was desired to be done at the beginning of the Plan. One reason for this disparity has been what has been mentioned above-lack of a system that would allow continuing assessment and thereby reallocation of resources by the Planning Commission

(g) One of our greatest misfortunes has been that we have not fully recognised and understood the link between education and science that the two can develop only hand in hand, and we have not dtermined rationally and objectively the kind of education-system, curriculum, syllabi-that would be most suitable for us. The problem has been compounded by a lack of will and the machinery to implement a sane decision in this regard The result is that we have a scientific manpower in which the ratio of quality to quantity is extremely low For example, in our assessment, 97% of those who have been receiving Ph D degrees in science from Indian Universities should have never, in the first instance, started their research work for the Ph.D Consequently, this would be true of the *faculty* of the academic institutions as well We have no doubt that in many scientific organisations-large and small if the staff is reduced by a factor of 10 (but selectively) and the budget reduced by a factor of 2, the output, both qualitatively and quantitatively, will go up by a factor of 10 ! We have not recognised that mediocrity dilutes excellence and that if the output of 10 outstanding scientists by themselves is x the output of 10 outstanding plus 90 mediocre scientists would be x/10 And we have been spreading our resources too thin, we would open a new University at the drop of a hat

(h) Our approach, de facto if not de juro, has been piecemeal and not integrative We have not understood fully the implications of how planning in one area would affect the other areas This situation has been made worse by our applying precisely the same rules for implementation of a science plan as elsewhere An ideal example would be 'reservations' on the basis of circumstances of birth Why such reservations at all in scientific research laboratories ?

(i) Our timings have often been wrong In reality, our planning has not been in real time but in retrospect For science, where the rate of progress has been tremendous in recent years, this kind of planning is bound to make us followers and close the doors to leadership this has indeed been so, with only a handful of notable exceptions

(j) We have paid only lip service to the development of scientific temper in the country even though it is now enshrined in our constitution as one of the duties of a citizen We have not recognised that concurrent encouragement of scientific research activity on the one hand and activities which have no base in science and which are, in fact, anti-science-on the other, leads to a dichotomous situation in which scientific research suffers and irrational and unscientific beliefs, superstitions, religious dogma and obscurantism flourish

(k) Lastly the language We simply have not recognised that English is destined to be the langugae of the world and is today the language of science If we wish to make optimal use of the gene pool of our country-in other words, democratise the practice of science and ensure that we get the best ones from amongst the *entire* population of the country to do science, and first rate science at that-it is obvious that we must democratise the learning of English This has not been so This is another example of the non-integrative approach towards planning in science How could we plan for science without planning for the language that the scientists use ?

conclusions

In conclusion, the fact that we have recognised the importance of science right at the beginning of our planning process, and that we started planning for science-even planning science-at least two decades ago, have been strong points in our favour On the other hand, the nature and content of our science plans has not always been adequate, contemporary, purposeful or far-sighted Wherever it has been so, there have been many lacunae in the implementation Since our planning process has not been coupled with assessment and evaluation, there has been no machinery to make corrections and alterations in real time

We have, however, no doubt that we *can* do much better and overcome the lacunae that have been mentioned above, to make science planning more purposeful and productive All is not lost yet to the contrary, in some areas we have done very well-partly aided by the planning process and partly inspite of it However, time is not on our side We hope that we will catch up before it becomes too late

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The key factor

D.H. Pai Panandiker

A national plan has to fix a target of growth rate. In order to achieve this growth, resources have to be mobilised. The resources have to come either from savings or from borrowings or from both. The target for growth rate in our next plan has been fixed at 6 per cent. With a favourable and expanding export market, the balance of trade appears to be encouraging. Shri Pai Panandiker, Secretary General, Federation of Indian chambers of commerce and Industry, while evaluating the performance of our five year plans, tells that the first five plans were not successful. In his opinion, the sixth and seventh plans could have achieved a higher growth rate, had the government used the resources, they had to be. The author has tried to prove that successful countries did not decide their rate of growth on the basis of savings alone. He has laid greater stress on widening the range of exports so that foreign exchange reserves could be strengthened. He is very hopeful of the Indian industry, which is looking outward and is now equipped with enhanced capacity to compete in international markets. Citing the examples of the firm grounds that India holds in the world of tea, gems, and iron ore markets, the author suggests that further diversification has to be introduced, bringing engineering and chemical goods into the folds of our export packet.

UNTIL THE 6TH, EVERY PLAN AIMED at about 5 per cent growth and achieved, at best, 3 5 on an average With a large gap between promise and performance, planning had lost credibility But the last two Plans did exceedingly well and have created tremendous confidence. At the last meeting of the National Development Council the debate was whether we can target for a 6 per cent growth rate Fortunately, the 'ayes' won.

The first limitation on growth that naturally comes to mind is resources, and when we think of resources we inevitably assume that these are limited by our capacity to save Take the savings rate, add external assistance part (which is negligible any way) divide the total by the incremental capital output ratio (ICOR) and you have a neat figure for growth target Surprisingly, no Plan was really constrained for want of resources. On the contrary, government mobilised

more money than what the Planning Commission had recommended. The first five Plans flopped and the next two could have achieved higher growth if government had used the money the way it had to be. ICOR is not a fixed variable. It should be the target. Growth will follow.

key to progress

The successful countries did not go about deciding their rate of growth from their rate of saving. If they had done that there would have been no economic miracles. Japan, and more recently, Korea, Taiwan, Hong Kong and Singapore have achieved growth rates exceeding 10 per cent per year precisely because they focussed on the use of resources rather than their amount. Even Thailand, Malaysia and Indonesia seem to be well set to become the next generation miracles. To none of them resources have been a limitation to growth.

"What is true of the company is equally true of the country. Development is not limited by own resources; it is limited by our capability to use resources efficiently."

Take a company Its growth is not governed by the saving it generates. From day one it plans to borrow. Of course, there is a rate of interest to be paid. But the company can afford to pay that precisely because it earns a higher return on that money. That is the key to progress. What is true of the company is equally true of the country. Development is not limited by own resources; it is limited by our capability to use resources efficiently.

Efficiency was not our principal goal. Other considerations came in Take the NICs again. They have full employment, better distribution of income and a surplus balance of payments position. Not that they gunned for these They came out as results of efficient development. If we continue to stick to policies which dilute commercial efficiency, we may as well forget about growth. But if we are determined to see that the use of resources is really the most economic, no matter who uses that money, there is no reason why we cannot join the ranks of NICs in just a few years.

What does that really mean in practical terms ? Simply that we can freely draw on the resources available in the international financial markets. This market is vast and the funds are available almost for the asking, provided we are in a position to repay. We have tried to rely on aid which is no different from loans except that the rate of interest on the former is lower. But if we can earn enough to pay that interest there is no limit to borrowing and there is no ceiling on growth.

Let us not, however, forget that what we pay by way of interest or dividend is in foreign currency and what we earn from investment within the country is in terms of Rupees. That will not do. We have therefore, to export a part of what we produce. In other words, our capacity to borrow and accept foreign direct investment will depend upon our ability to earn the requisite foreign exchange from exports.

Consider the 8th Plan. The National Development Council is expecting a growth rate of 6 per cent with an investment of Rs. 6.49 trillion. If we improve our performance and consequently reduce the ICOR and venture to borrow from the international financial markets we can very easily raise our growth to 7 per cent with an additional investment of only Rs. 0.44 trillion. That means a lot, however, in terms of exports.

earning foreign exchange

With an average savings rate of 23.2 per cent in the next five years we can raise investment resources to the extent of Rs. 6.83 trillion if we mobilise Rs. 0.8 trillion from external sources. Of course, the Latin American countries have put a fright in us that borrowing is bad and we can be caught in a debt trap. There are enough commentators in India as well who have warned us precisely against these possibilities. Already our debt service ratio has touched 25 per cent (going by the optimistic estimates) which is well above the normal temperature of the body economic. Borrow more and we can land in the debt trap.

But debt service ratio depends not only on the amount of money that is to be repaid but also on the earning of foreign exchange from exports. If we borrow more and, at the same time, export more, the debt service ratio can, in fact, drop down. A constructive approach is, not to avoid borrowing, but to increase exports. Export is necessary for another

"All countries which exceeded 5 per cent growth per year had pushed up exports well above 15 per cent of their GNP, depending upon their import requirements. Korea exports 44 per cent; Indonesia 21 per cent and China 14 per cent of their GNP. We are far below that."

reason. Growth is not mere increase in production. That production must be matched by commensurate demand. To push up growth savings have to increase; and when savings increase, consumption cannot. That is why, when growth crosses a certain level, a demand gap develops. Unless this is made up from exports growth will suffer.

Exports are twice blessed. They make foreign borrowings possible and they generate demand to support higher production. All countries which exceeded 5 per cent growth per year had pushed up exports well above 15 per cent of their GNP, depending upon their import requirements. Korea exports 44

per cent; Indonesia 21 per cent and China 14 per cent of their GNP. We are far below that. Our exports are only about 5.5 per cent of the GNP and if, in the 8th Plan, we take them up to 10 per cent we would have done the job. This is indeed the key to our planning effort. Is that possible ?

developing export consciousness

It is not generally recognised that Indian industry today is not the same it was 5 years back. Partly in response to liberalisation and the incentives provided by government but mainly becuase of the attractions created by the depreciation of the Rupee, Indian industry has been looking outward. In the past 3 years particularly, an export consciousness has developed Quality has improved, the size of operations has enlarged; management has been professionalised; costs have been controlled. This has enhanced capacity of Indian industry to compete in the international markets.

"Every projection is based on assumptions; and no assumption is always true. In a five year period, the margin of error can be large and all calculations can go awry."

In the past 3 years, our exports increased at an average rate of 28 per cent annually. That was in terms of Rupees. With the depreciation in the currency it would not reflect the foreign exchange earning capacity. Even so, in $ terms the rate of increase would be 12-15 per cent which would be more than 3 times the rate achieved in the previous 3 years. This is not a bad performance. There is a qualitative change and it is quite likely that we may be able to persist with that improvement in future as well, if other agencies play ball

A number of projections have been made about the balance of trade in the 8th Plan. Every projection is based on assumptions; and no assumption is always true. In a five year period, the margin of error can be large and all calculations can go awry. But for adoption of strategy and for commitment of resources, a perception about the future is vital.

favourable balance of payment

On the basis of recent trends, two broad features can be discerned. First, exports, in real terms, can be made to grow at the rate of 18 per cent per year if there are no infrastructural bottlenecks. Second, considering the import content of exports and of the GNP, imports in real terms would grow at 14.5 per cent per year. That would mean that exports by the end of the 8th Plan would reach Rs. 59,000 crores and imports 60,000 crores, more or less balancing the foreign trade position. Since the invisible trade balance is surplus we shall end up with a favourable balance of payments position even before the end of the plan and build comfortable foreign exchange reserves.

The increase in exports will be spread over a wide range of products. But the major contributions will come from processed foods, leather and leather products, gems and jewellery, chemicals, engineering goods and textiles. These together can be responsible for more than 70 per cent of the additional exports in the next 5 years. Already we have captured 16 per cent of the world tea market, 10 per cent of gems and jewellery market and 8.5 per cent of iron ore market. These markets may not grow that fast in furture because of their inherently low income elasticities. We have to diversify into value added manufactured goods, particularly engineering and chemicals.

And who will buy ? Mainly the EEC, the US and the Asia and Ociania accounting for about 70 per cent of the additional exports. This may mean some change in the direction of trade and therefore may not be without problems. Europe of 1992 will not be the same as Europe of today. With the removal of internal barriers, adoption of uniform specifications, rules of origin, anti-dumping regulations, etc. sourcing from outside may be hindered. At the same time, with the expansion of market, the demand may further enlarge. The strategy to tap Europe has to be adopted now. The US with its Omnibus Trade and Competitiveness Act is out to find entry to American goods and in the absence of that, may retaliate with measures which may affect the flow of trade even from developing countries. Already, India had been named under Super 301, indicating that the US means business.

facilities are inadequate

Yet, these are not the real problems They are right here with us. Export is a highly complex operation necessitating total coordination among different agencies. The Finance Ministry seems to be more concerned about budgetary revenue than about earning foreign exchange. This is why imports of capital goods are taxed at 85 per cent, creating a 16 per cent cost disability. Simplification of documents and export procedures, it is estimated, can bring down export prices by another 20 per cent. All indirect taxes including sales tax, entry tax, octroi and the cascading effect of excise and customs cannot be compensated by CCS. Productivity of the labour can substantially improve if the promised 8 hour day work is actually put in. Power, transport and port facilities are woefully inadequate. All this reflects the more basic fact that export consciousness in government, except the Commerce Ministry, is missing.

"I contracted for export of 1000 crank shafts a month" a businessman was narrating his story. "The importer gave specifications and sent 3 samples by air to avoid delay. It took me 6 weeks to clear those crank shafts from the customs. The importer was shocked and telexed back, 'If you take 6 weeks to clear

the samples from the customs, I am afraid, you may take 6 years to deliver my goods'. Naturally, the order was cancelled". Similar instances can be multiplied.

need for immediate decisions

It is not that other countries do not have problems. But they have created a mechanism to resolve them expeditiously. Every month the head of Government reviews the export performance, discusses with the representatives of trade and industry the problems that are faced and indicates targets to be achieved in the next month. With such a system no problem ramains unresolved within the shortest possible time. Korea, Taiwan, etc. are smaller countries with lesser demand on the time of the head of the government. However, the essential thing is that decisions must be instantaneous and action must be immediate.

With such a mechanism the 18 per cent growth in exports will not be difficult and Rs. 59,000 crores exports by 1995, at today's prices, can be right in the pocket. With that, the 8th Plan can draw on foreign resources more than what it is wanting to do now and achieve a growth rate a bit more than 6 per cent that in looks for

It all fits in. The strategy would be to promote higher investment financed, by larger foreign resources to achieve a higher rate of growth in production for which there will also be adequate demand and which will generate enough dollar funds from exports to rapay loans along with interest But neither the additional production nor the additional exports can come for the asking. The essential condition is that on the investment made the return must be more than the interest. That calls for the utmost commercial efficiency ☐ ☐ ☐

NIC-Newly Industrialised Countries
ICOR-Incremental Capital Output Ratio
CCS-Cash Compensatory Support

(Contd. from page 59)

given to managing Science and Technology for development Basic or pure science perhaps cannot be managed but application of knowledge and use of technological developments would necessarily involve greater managerial efforts if the technological developments have to be effectively utilised. There will be a need for increasing our R&D efforts from the present 1% of the GNP to perhaps 3% of the GNP with greater contribution coming from private and public sector industry Every socio-economic sector must examine the role that Science and Technology can play in improving its productivity and efficiency. The setting up of Science and Technology Advisory Committees (STACs) in various economic ministries is a positive sign in this direction, and it is hoped that through the activities of the STACs, the technological development will be truly indigenous and bring about the dynamic growth for the relevant economic sector. STACs in due course will not only oversee the technological development programmes within their Ministries, but will also develop mechanisms to forecast future requirements and generate activities to meet these requirements.

One important initiative taken by the Government is the setting up of the Technology Information Forecasting and Assessment Council (TIFAC), which is expected to provide future guidelines for development and utilisation of technology with an eye towards its future impact as relevant to India and based on availability and economic viability of various technologies.

In conclusion, we can say with confidence that the technological developments we have seen over the last four decades have no doubt given us clear indication of our strengths and weaknesses. Our brief analysis has shown that our indigenous efforts in the field of Science and Technology, particularly in their relation to industrial and economic development would have to be geared more strongly to the problem solving approach than what has been done in the past For this purpose, the Science and Technology system and infrastructure so created would have to be increasingly more responsive to the goals of the country. Unfortunately, the rate of growth in the field of Science and Technology is very fast and if we have to make the maximum use of these developments, our absorption and utilisation capacities must grow at an equally rapid pace. At this stage of our history, India cannot afford to be bypassed in this race of technology development ☐ ☐ ☐

(Contd from page 32)

are writing it on a clean state, but on the basis of the structural dualism referred to earlier which, in addition to all the relief provided, should permit the poor–the landless, the marginal farmer, the scheduled castes and tribes and women generally-to organise themselves to fight for what has been legislated for them (like land reforms, fair wages employment reservation for women etc) and against all forms of discrimination and exploitation.

A final thought: Sustainable Development is not a lollipop in the future. It can start now in the terminal year of the Seventh Plan and in the five years of the Eighth Plan. We demonstrated in the Draft Fifth Five Year Plan model that a small 5 per cent cut in the increased rate of consumption of the top 30 per cent of society (entertainment in 5 star hotels, the 2nd colour TV, the 3rd Maruti etc) can increase by 55 per cent the resources for the consumption available to the bottom 30 per cent. This disquisition on the call of our Environment poses to each of us of the middle and upper classes this question. Are we willing to pay this small price ? ☐ ☐ ☐


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Delving deep into the ocean

Prof. S.Z. Qasim

The ocean has many secrets to share with man. Deep into its bosom lies wealth unexplored and untold amount of energy yet untrapped. Dr. Qasim, Vice Chancellor, Jamia Millia, and an established authority on oceanography, gives an outline of the vast prospects that the ocean beds hold for us, in the following article. The new age into which we are moving, is going to be "an age of sea", he says. In the words of the author, the ocean contains everything that the land offers—living space, food, energy, minerals and petroleum. Proper planning in the field of ocean research and development would certainly yield results that could solve a host of problems that mankind is faced with. This is why, he explains, large investments are being planned in our country to explore and exploit the various resources deposited in the ocean, for the benefit of our evergrowing population. He thinks that in the next two decades India would be in a position to provide expertise and guidance to many developing countries in the field of ocean science and technology.

HUMAN RACE HAS BEEN DEPENDING LARGELY on land resources for its welfare and survival. However, the land resources are rapidly getting depleted and it is believed that within the coming 25 to 30 years, many raw materials that are at present obtained from land will be in acute short supply. Therefore, attention has been drawn towards the oceans which cover 71% of the earth. The oceans contain almost all the natural resources which the land offers. Since mankind will have to depend on the oceans for its survival, it is very necessary to give a considerable thought to planning and execution of oceanographic programme of the country. This we have done in the past and will also continue to do so in the future. During the next two decades, one of the areas in which the most spectacular advances are likely to occur is the ocean sector. The establishment of a new Department of Ocean Development shows that the Government of India is giving a high priority to the frontier areas of ocean development. Large investments are being planned for the exploration and exploitation of various ocean resources to improve the socio-economic conditions of the vast population of India.

It has been estimated that the available land per person in the early part of the next century will be reduced to about half of the area available for different activities of human beings. In many parts of the world, land is not readily available. Therefore, in our strategy for future planning we will have to consider what the oceans really offer in the form of resources. These can be summarized as follows:

living space

Population growth and industrialization jointly contribute to the concentration of more people in coastal areas This trend in turn demands far more power and energy in coastal areas, which is often met by the construction of large power plants-both thermal and nuclear near the sea.

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Thus, more and more submerged areas are being reclaimed from the sea For example, the reclamation work in cities like Bombay is going on at such a fast rate that it is hard to believe now that this city once consisted of only a few islands. The reclaimed water fronts are being used for building expensive flats, hotels, commercial offices, recreational activities etc

fresh water

It has been feared that by the turn of this century, unless the technology of large-scale fresh water production becomes well established, fresh water will be a serious limiting factor for our everyday needs. To meet the world-wide shortage of fresh water, it has been estimated that towards the year 2000 A.D., about 90,000 million tonnes of fresh water will have to be produced annually A significant portion of this will come from the sea by desalination. Many countries including India are carrying out researches to develop cheap and efficient method of desalination of sea water.

food

In 1960, the developing nations had a population of 2 billion. This figure will go up to 5.4 billion by the year 2000 A.D. The food production in the Third World was of the order of 0.45 billion tonnes in 1960. It is expected to go up to 0.9 billion tonnes in 2000 A D. Since the dawn of history, both animals and plants of the sea have been used by man as food. During the last few decades, substantial inputs have been provided for marine fisheries in the form of infrastructure, institutional base and manpower. At present India ranks sixth in the list of fish-producing countries of the world. Fish constitutes only about 4% of the world's food production, but in Asia, it supplies about 45% of the total animal protein to the prople. Within the last 27 years, India has also emerged as one of the foremost exporters of sea food in the world. The export of seafood which started in 1962 from India with a modest value of Rs 4 crores has shown a very high rate of increase and in 1988 it has reached Rs. 600 crores in value Sea farming or aquaculture has started producing significant quantitites of seafood in India. There is indeed much scope for further development of aquaculture in all developing countries because in the third world the cost of aquaculture operations is much cheaper than in the developed countries

petroleum from the sea

The present offshore production of oil and natural gas is approximately 38% of the world production and this figure is likely to go up sharply by the turn of this century. There are substantial reserves of oil and natural gas in the ocean However, quite a large part of our continental shelf is still unexplored. Further technological progress in the method of drilling at depths beyond the shelf edge will enhance the potential of oil production from the offshore areas substantially The production of oil and gas from the Bombay High oilfields has gone up many times during the last 10 years. Continued oceanographic support is most essential for safe and optimum exploitation of offshore oil and gas.

other minerals

Major minerals available from the sea are minerals on the sea floor and in the sea bed, and minerals from the sea water From the ocean floor, coal, gold diamond, tin, iron, phosphorite, potash, sulphur, rare earth metals (rutile, zircon, titanium etc.) are being mined in several countries. India exploits only a few of these The other chemogenous deposits from the sea floor, which come from the deep sea are in the form of the much-publicized potato-shaped polymetallic nodules The nodules, besides containing manganese and iron also include copper, nickle and cobalt which are in short supply in India. Experimental pilot dredging for the nodules has already been carried out by India in the Central Indian Ocean and by several other countries in the

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Pacific. It is expected that commercial mining of nodules will start by the year 2000 A.D. For minerals from sea water, it has been estimated that the world oceans contain 50 x 10 tonnes of salts which are fairly rich in many valuable metals. Several from these are being exploited and more and more are being added to the list.

energy

Energy from the sea can be obtained at least from eight different sources. However, the most promising of these are the Ocean Thermal Energy Conversion (OTEC), Wave Energy and Tidal Power.

Water column has tremendous amount of energy stored in the thermally stratified tropical seas which can be extracted. In several parts of the world, power plants based on ocean thermal energy conversion are being planned. Small capacity plants using activated turbine generators by waves in an oscillating water column (OWC) are being installed in some parts of the world including India. Similarly, the technology of harnessing large-scale power from the tides is now well-established. There are a number of ways of generating tidal power. The tidal plant currently in use in France over the river Rance generates 240 MW of power. It is based on a single-basin, two-way generation of power. The Russian experimental tidal power plant at Kisalya Guba generates 440 KW of power. In India where tidal range is large and where tidal dam can be constructed at several sites are in Gujarat and West Bengal.

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climate

One of the objects of the study of the oceans is to make an accurate forecast of the reversing monsoons for the benefit of agriculture. It is also possible to give an advance notice of cyclonic storms, hurricanes, high winds and storm surges which provide a hazard to shipping and to the coastal population. The use of weather satellites and cyclone warning radars increases the accuracy of the weather forecast. The satellites and radars transmit information on weather pattern, cloud cover and on the state of the sea. By combining these pictures with the other weather data, meteorologists can produce accurate charts and reliable short-term and long-term weather forecasts.

strategy for planning

From the various resources and uses of the ocean summarized above, it is very clear that India has made rapid progress in all aspects of ocean research. This is because, science of oceanography has been given a high priority in India and this includes both fundamental and applied science. The main purpose of formulating an "Ocean Policy Statement", which was discussed and approved by both Houses of our Parliament in 1982, is to make an effective use of the sea for our economic, social and recreational needs of the vast population of our country which has been dependent directly or indirectly on the sea. Beside the National Institute of Oceanography (NIO) in Goa, which is a premier institution in the country for researches in oceanography, marine research is being carried out in several universities, fisheries Institutes national laboratories and the Indian Institutes of Technology (IITs). The ares which need much greater thrust during the next two decades are:

(a) Physical Oceanography
(b) Chemical Oceanography
(c) Biological Oceanography
(d) Geological and Geophysical Oceanography
(e) Instrumentation
(f) Ocean Engineering
(g) Control of marine pollution
(h) Effective utilization of information and oceanographic data

(a) *Physical Oceanography:* The field includes land-sea interaction and nearshore circulation with application to costal zone management. In this area, studies are conducted on beach erosion, concentration of heavy mineral deposits along some parts of our coastline, sedimentation in harbours and estuaries and formation of sand bars around the river mouths and their impact on navigation. Other problems of interest in this field are the energy exchange between the sea and atmosphere, shore protection through utilization of wave energy and the study of monsoon and its influence on oceanic processes

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(b) *Chemical Oceanography:* This area deals with the fertility of the sea (nutrient distribution in water and sediments), enrichment processes, effect of monsoon and land runoff on the fertility of coastal waters and the utilization of marine chemicals from sea water, sea-weeds and botton sediments.

(c) *Biological Oceanography:* Thrust areas in this field are the measurements of primary, secondary and tertiary production rates in the sea and qualitative

and quantitative analyses of the rates of energy flow from one trophic level to the other. The other exciting area is "marine biotechnology" which deals with the production of genetically engineered bacteria and higher forms of life which will enhance the productivity of our waters by several folds. Conservation of endangered ecosystems such as coral reefs and mangroves also demand our immediate attention.

(d) *Geological and Geophysical Oceanography:* This is an area which gives us the knowledge of mineral resources of the sea including oil and gas. The mineral resources occurring along the continental shelf can be classified as (i) surficia deposits and (ii) consolidated subsurface deposits. The surficial deposits found on the sea bed are further divided into terrigenous, biogenous and chemogenous. The terrigenous deposits (monazite, ilmenite, magnetite and garnet sand) occur in various areas of west and east coasts of India and mining of these has already started Ilmenite is exported to other countries, while monazite is retained for internal use. Large deposits of biogenous material suitable for cement industries are also found in India. Similarly, large chemogenous deposits of phosphate and polymetallic nodules are found in the deep sea. Our country has made spectacular progress in the field of deep sea mining and India is the first country in the world to get a mine site registered in the Central Indian Ocean. Consolidated minerals occurring in bed rocks are oil and natural gas and India has amply demonstrated the presence of rich oilfields both on the west and east coasts

"The most significant contribution India will make during the next two decades would be in undertaking the different challenging tasks of exploiting the sea and its resources for the benefit of its people. India will also provide support and expertise to many developing countries of the world in the field of ocean science and technology."

(e) *Instrumentation:* Design and development of indigenous oceanographic instruments are absolutely essential for our progress in the ocean sector. Even if we are obliged to import a wide variety of instruments from abroad, their maintenance and servicing will include R&D backing by trained staff in electronics and solidstate-physics. Although we have been able to develop a variety of instruments indigenously, there is a lot to be done in the areas of databuoys, submersibles, marine sensors and simulation techniques.

(f) *Ocean Engineering:* The future of ocean technology depends on our advancement in the field of hydraulics and soil mechanics. We must be able to provide consultancy and advice on (i) protection of coastal erosion (ii) laying of submarine pipelines (iii) construction of jetties and boat pens (iv) installation of moored buoys for data acquisition and (v) construction of coastal structures.

(g) *Control of marine pollution:* In recent years, there have been terrifying reports on the large quantities of pollutants introduced into the sea by man. Heavy metals (lead, cadmium, mercury etc.), insecticides, pesticides, detergents, petroleum hydrocarbons, even radioactive wastes are being thrown into our seas in formidable quantities. Therefore, it is most urgent that the adverse effects of pollutants are known and suitable legislative and other measures are taken to protect the marine environment on which the future of man depends.

(h) *Effective utilization of information and oceanographic data:* During the past three decades, we have collected enormous amounts of information and data from different regions of the Indian Ocean. We have considerable expertise available in the country on the acquisition, processing and storage of data and for this there is an Indian National Oceanographic Data Centre at NIO, Goa, where most valuable data are available from several thousand stations in the Indian Ocean on almost all aspects of oceanography. We also have several other data centres for fisheries resources, fisheries technology and fishery economics. However, despite such a rich and excellent data base in the country, we have not been able to develop a healthy exchange of information in between the centres within the country and outside. Planning and advice in this area are urgently needed so that all the centres which are the custodians of oceanographic and related data should be able to utilize the information on all aspects of the ocean, effectively for planning our resource utilization.

conclusion

India has at present nearly 1,500 marine scientists Many of them are internationally acknowledged specialists in different fields of oceanography. During the past decade, there has been an increase in the number of marine scientists trained in the Indian universities. A steep upward rise has also been recorded in the quality and quantity of publications in marine science. India is rapidly increasing her capabilities in developing indigenous technology in marine science. If our rate of progress remains the same as it is now, our country will soon become self-reliant in the field of ocean research and development.

The most significant contribution India will make during the next two decades would be in undertaking the different challenging tasks of exploiting the sea and its resources for the benefit of its people. India will also provide support and expertise to many developing countries of the world in the field of ocean science and technology. The oceans will thus continue to hold the promise of meeting man's overgrowing needs for food, minerals, energy, chemicals, freshwater, living space and climate. The new age into which we are moving in is going to be the "age of the sea" □ □ □

How to plan education of the future

Dr. Prem Kirpal

Bringing the boons of education to masses is one of the prime objectives of our plans. Sincere efforts are being made to introduce changes in the educational system so that more and more people may shake off the shackles of illiteracy. It has been agreed by serious social thinkers that a radical and qualitative transformation has to be brought in our educational system in order to fix the priorities of formal and non-formal teaching. For a country of the size of India, traditional, conservative education would not be helpful. The author, Dr. Prem Kirpal, former Education Secretary, has suggested in the following piece that modern education must stem from the roots of society and share its living conditions and problems. In his opinion, education can not reach the masses of our country, through conventional means alone. Therefore, he proposes, that modalities offered by the media of mass communication have to be used on a much larger scale. He thinks that in the use of educational technologies we are still lagging behind. He lays more emphasis on the contents and curricula than an mere structural changes. According to him we must move away from the practice of transmission of abstract knowledge and ready-made answers and introduce a system which encourages the spirit of enquiry and provides opportunity of independent thinking among the learners.

A GREAT RENEWAL OF EDUCATION BY appropriate stress on qualitative improvement at all levels new orientations and more efficient functioning of its various modalities, and fuller utilisation of resources and opportunities is a paramount need of the hour. The change from the requirements of a merely linear expansion of the educational system to a redical and qualitative transformation of the system itself in both its structures and contents presents formidable tasks and reponsibilities to educational planners and administrators. Their task is further complicated by the absence of a clear, concrete and integrafed national policy of education, It is true the Report of the Indian Education Commission of 1964-66 (the Kothari Report) carried out a comprehensive review and made many recommendations. The Report was, however, never translated into a national plan of action: only a number of guidelines were stated in the so-called national policy document, and no modalities for implementation were devised. The guidelines

remained general and fragmentary statements of broad objectives which were not even integrated into a larger design. A meaningful national policy must bring clear objectives, priorities, available resources and modalities of action into close relationship for developing a comprehensive and integrated design for change. This was not attempted and we continue to float in the midst of numerous recommendations generated by endless conferences and meetings, without having achieved any focus of certainty and concerted action.

five major constraints

The nature of the educational process, the new vistas of life-long learning and non-formal education,

"In India education has so far received low priority in terms of resources in spite of loud professions of its over-riding importance. Eloquent words have not been matched by adequate deeds and the gulf between thought and action has widened, resulting in lethargy and confusion instead of intense and sustained action by all concerned".

emerging technologies of communication project new challenges and opportunities. The four decades of hope and frustration after Independence saw the gap between thought and action increasingly broadening in the field of education. The experience of the past holds lessons for the future. Why has educational change lagged behind the pace of general change in society ? There are at least five major constraints and difficulties which must be overcome with determination and ingenuity

1. An educational system only reflects the realities of its larger socio-economic environment While education helps social change, it is itself determined by social realities. The democratization of education often remains an illusion if inequalities and privileges are built into the functioning and operational values of the socio-economic environment is not favourable and even resistant to change.

(2) Problems concerning the expansion of educational facilities at various levels and the qualitative improvement of educational content depend upon the goals of society and the priorities it sets for reaching these goals. In India education has so far received low priority in terms of resources in spite of loud professions of its over-riding importance Eloquent words have not been matched by adequate deeds and the gulf between thought and action has widened, resulting in lethargy and confusion instead of intense and sustained action by all concerned. **The absence of an adequate political will** for educational reform and transformation has been a strong constraint. Our miserable performance in the efforts to eradicate illiteracy was largely due to the lack of political will for achieving this objective. Much preparation is needed for literacy campaigns, and in the Indian situation it is indeed a formidable task to improve upon the innate intelligence and abiding culture of oral tradition by a new culture of the written word, apart from the massive effort needed to make millions literate and sustain their literacy. The skill of literacy and the larger awareness of the adult make striking contributions to economic and social development and the better ordering of society and its operational values. Recent initiatives in this direction are heartening, but the task is prodigious and calls for efforts and participation by all

(3) Another powerful constraint is the strong **ingrained conservation of the educational system** which breeds its own vested interests and sacred cows in the form of institutions and their managers who prefer habit and tradition to change and innovation. We need to break the traditional conservatism of educational institutions by a more flexible and progressive outlook that can generate and nurture innovations and offer greater facilities for expression and fulfilment to diverse groups and individual aptitudes in our vast pluralistic society. The superficial attraction of uniformity must be rejected in the interest of higher quality and greater creativity which result from decentralization, flexibity, local autonomy and innovative action

"Research and Training Programmes were neither developed adequately nor applied to qualitative improvements which failed to materialize. The institutional infrastructure remained almost the same in form and functioning as was inherited from the neglect and inertia. Quality declined; only quantity exploded".

(4) These essential elements for a meaningful educational change could not be realized on account of **defective planning and lack of adequate implementation.** Research and Training Programmes were neither developed adequately nor applied to qualitative improvements which failed to materialize. The institutional infrastructure remained almost the same in form and functioning as was inherited from the colonial period, and in several ways good institutions suffered from neglect and inertia. Quality declined;

only quantity exploded. It is time now to establish a better planning machinery to ensure real and speedy implementation by active participation of all concerned and a dynamic mobilization of societal resources through decentralization, local initiatives, and meaningful linkages of programmes and modalities of action.

(5) The first and the most important step, however, is to recognise, the **primacy of the teacher** in the educational process and give him a central role in bringing about educational change. No worthwhile change will materialise unless the teachers are ready, the parents approve and the students understand and accept. And this can happen only when teachers are fully involved in planning and decision making at all levels and adequate consultation takes place with parents and students. The Indian educational scene continues to be dominated by bureaucrats and politicians relegating the teachers to a depressed status and passive role, neglecting the parents and students To ensure more effective and meaningful reform, we must now reverse these trends and give the teacher his due. While national policies must be finally made by people's elected representatives, supported and assisted by the best technical knowledge available, such policies should be evolved in close consultation with those who are intimately involved in the educational process, that is, the teachers, parents and students.

"Between class education and mass education we have neglected the masses, especially the needs of rural areas. Between the education of children and the education of the adults we have favoured the children of the well-to-do families. Between those who can afford full-time education and the working population, India has exercised the choice in favour of the privileged ones".

The five constraints to educational change above have to be taken into account and overcome in the planning and implementation of reform.

a new concept of education

Modern education is a process of learing from real life and from the pulsating, dynamic society around us. The learning should be at the choice and pace of the learner and proceed for all his life span through all appropriate ways and modalities avilable to the changing society. Education must stem from the roots of society, share its living conditions and problems and strive towards the fulfilment of its goals and aspirations. In this way education becomes relevant to life and makes its own contribution to the development of the individual as well as to be well-being of the society. Life long learning from all external sources and inner experience is both the process and purpose of education and way of receiving and using one's learning determines the range and quality of the life-experience. The education of tomorrow will comprehend the multiplicity of learning situation and techniques; sharpen flexibility for quick and frequent adaptation, multiply manifold paths and choices, and endeavour to serve the ceaseless process of increasing our awareness, facilitating the full expression of personality and contributing to that impulse and urge towards transcendence which is the most precious heritage of India's culture and also the conscious and growing need of our own times. In all possible ways such a comprehensive concept of education should be applied wisely and resourcefully to the needs of man as citizen, as worker and as a person, enriching human relationships, developing initiatives and skills above all giving full scope to that creative spark which expresses itself in the search for goodness, truth and beauty, thrives on freedom and solitude and gives meaning to the life and the vision of the individual person. This is a vast and complex task, but it is the only way for us to view the education of the future. The task may seem impossible to realise, but the endeavour is full of fascinating possibilities and calls for great adventures of thought and effort; and success awaits those who will do and dare.

educational priorities

A beginning has to be made by a thorough review of educational priorities. The existing priorities as they operate in practice are wrong and lopsided, resulting in waste of scarce resources. In spite of high sounding intentions and well-meaning plans, our actual choices are still in favour of the privileged classes of the community to the neglect or detriment of the deprived sections. Between class education and mass education we have neglected the masses, especially the needs of rural areas. Between the education of children and the education of the adults we have favoured the children of the well-to-do families. Between those who can afford full-time education and the working population, India has exercised the choice in favour of the privileged ones. Between the urban communities and the rural population, we made the usual choice and neglected the deprived ones. Now if the basic socio-economic and socio-cultural options have to be made to the needs of a truly democratic, egalitarian and forward-looking society, then the existing educational priorities have to be not merely altered, but drastically reversed in favour of mass education. This implies decrease of growth at the university level, change of orientation at the secondary level, much stronger emphasis on the primary level, equalisation between formal and non-formal education, development of adult education, and greater care of

children at the pre-primary level. The highest priority should be accorded to the transformation of elementary education into a popular, mass movement linked to the needs of agriculture, rural development and adult literacy. At all levels the content of education is of paramount importance and the fullest utilization of all situations and modalities of learning is essential.

role of non-formal education

The new concept of education and a sounder allocation of prioities raises the question of the place and role of what has been called non-formal education and its combination or coordination with the system of formal education. This need not mean andy sudden or appreciable decrease of formal education. It does, however, call for a much faster growth of the non-formal facilities and modalities in the coming decade in order to correct the present imbalance and the long neglect of utilising out-of-school educational situations. We need to create and develop all types of appropriate institutions, programmes, activities and personnel for non-formal education. This need is abvious What is not so obvious is the corresponding task of deep and significant modifications of the structures and content of formal education. The development of non-formal education and its optimum utilization entails important changes in the curriculum and methodology of formal education and in the attitudes of learners towards non-formal offerings of learning. We have to establish meaningful links between formal and non-formal education in order to enrich, prolong and diversify the learning process without incurring the galloping costs of unbridled expansion of formal education, which often excludes or handicaps the deprived sections of the community.

"Educational contents have to play a dominant role in the process of self-realization and self-liberation of man, making him a free, responsible and transcending person, with ample scope for ceaseless enquiry, independent thinking and conscious choice of values."

Several bold and far-reaching measures have to be taken regarding educational structures, linkages and promotions inside the coordinated systems, adequate financial allocations, management problems and priorities of action.

new technologies

In a country like India with a large illiterate population, education cannot reach the masses through conventional and traditional means alone and through the orthodox modalities such as class room teaching and text-book materials. Educational technology through the means and modalities afforded by the media of mass communication have to be used for educational purposes on a much larger scale. At present this is not happening and the signs of adequate action are again few and discouraging. There are some half measures and a few modest efforts, but nothing substantially new or imaginative on a large scale and with bold conceptions is emerging. In the use of educational technologies we remain far behind other countries, including some developing ones. It is true that the evaluation of the educational impact of many media-channelled educational programmes does not show highly exciting results, and form the pedagogical point of view, in terms of knowledge, congnitive aspects and retention rates, the results are often disappointing. But there is no escape from the maximum possible utilisation of the mass media for educational purposes if a nation-wide dissemination of knowledge, especially for the use of the deprived masses, is our aim. In any case the radio, television, satellites, press and films have a much higher educational potential than their present use which is limited.

content of curricula

The proper use of educational technologies is closely related to the content of education and the diversification of the curricula of learners at all levels in different situations of both formal and informal education. It is positively harmful to limit the educational problem to structures, systems, logistic considerations and quantitative aspects as it is often done. The crux of the matter is the **content of education** which must reflect a different vision of the furture. The content of education must correspond to the new concept of education, to the essence of the learning process, and to the linkage of man's future and the future of education. This involves a deep modification of all aspects of the contents and the curricula, including the objectives to be achieved and the curricula, including the objectives to be achieved and the methods to be used. In particular the evaluation procedures have to be drastically changed to free the content of education from the tyranny of examinations, the explosion of knowledge poses another challenge. The problem of content is indeed of prodigious dimensions, but there are hardly any signs of adequate response to this challenge. Our planners and reformers have given priority to structural changes such as the 10+2+3 pattern and the building of autonomous colleges, neglecting the far more urgent and important problem of reviewing the contents of education and improving the curricula which remain inadequate and outdated. The difficult question is how to alter the existing aims and practices of education which make the learner's experience so limited and lop-sided. We must move away from the present emphasis on mere transmission of abstract knowledge, dissemination of ready-made answers, regimentation, indoctrination, parochialism etc. Educational contents have to play a dominant role in the process of self-realization and self-liberation of man, making him a free, responsible and transcending thinking and conscious choice of values. They must mould and nurture the being the

belonging and the becoming of the citizen of the Republic of India, designing purposefully and wisely his present from the roots of he past and toward the fast-emerging challenges and opportunities of a global society and planetary order of the future.

modalities of action

The educational horizonsk are clear and exciting. The problem is how to reach these; and this brings me to the question of modalities of action and change. The following five problems of modalities of implementation need to be tackled effectively

the problem of resources

It is well known that ever since Independence the educational sector of national life has received

"It is now time to move from empty rhetoric and pious lip service to clear and purposeful thinking and determined action. All political parties can cooperate and even join together in bringing about the essential educational reforms urgently needed by our society".

extremely modest financial resourcs The per capita cost of education, especially in the area of mass education and college education, has been lowest in the world The little over three per cent of the GNP currently spent on education is also among the lowest even in the developing world We must now increase appreciably the share of national wealth for education For this purpose, it is necessary to explore and deploy all the possible modalities of socical action and considerable potentialities of linkages between different sectors of economy for the enhancement of material, financial and intellectual resources at the service of education development.

educational planning and policy making

The search for the educational future cannot be the way of merely lucid improvisations, vivid and visionary contemplation and brilliant intellectual speculations. There is need for solid investigation, gathering of reliable data, and scientific research as well as for realistic innovations and bold experimentation before options can be made in such a delicate and complex area of human experience as education. The UNESCO report "Learning To Be", reightly observes:

"Any educational policy refelects a country's political option, its tradition and values and its conception of its future.... Expounding an educational policy is the end result of process of thought which consists in:

(a) ensuring that educational objectives comply with ocer-all objectives;
(b) deducing educational objectives from aims approved in over-all political policy;
(c) harmonizing education objectives and those adopted in other sectors of national activity...

We may then move from the policy phase to the strategic phase... The object of strategy is to transcribe policy into a body of conditional decisions, determing action to be taken in relation to different situations which may arise in the future... Drawing up a new strategy necessarily presupposes an overall diagnosis of the state of education."

This way of sound planning is unfortunately not yet the way in which the educational policies of India are made and elaborated We are not equipped, either scientifically or logistically, to start the building of the educational future in a systematic way.

If we are to embark upon a meaningful search of the future goals and patterns of our society, and in that context to shape the future of education, it would be necessary

(i) to put emphasis on tools and means for identifying the future rather than the mere process of inventing or imagining it,
(ii) to put emphasis on research and investigation of alternatives and innovations instead of trying out ready-made solutions;
(iii) to involve all forces (political, scientific, economic, pedagogic, etc.) and parents, teachers and students in the vitally important task of reshaping our education

In the planning of education we have to think not only for today and tomorrow, but also in terms of middle-term and long-term perspctives.. The planning and management of education must be entrusted to sepcialists and teachers rather than the generalist type of administratorx, who has neither the skill nor the will to innovate. This does not preclude the injection of general administrators of adequate ability and vision to the planning and administration of education in a sustained, long-term dedication

educational leadership

The broad and comprehensive education of the emerging future cannot now be the responsibility of the ministries and departments of education and the ruling establishments of universities as they are organized at present. The monopoly of the State and of the traditional institutions and the professions must give way to the pluralistic role or more diverse, democratic and relevant authorities, patterns and institutions. It is often argued that education should be a national responsibility and not a state subject. In a country of the size and diversity of India, the states of the Union, and even the localities of the district level, have to play a primary role in the sphere of education. But there is certainly need for over-all national policies, comprehensive planning and some supervising authority to enforce implementation. It will be necessary to establish inter-ministerial bodies for education and the whole field of human resources under the guidance of leaders whose authority will ensure inter-ministerial cooperation, and prompt action for enforcement of policies. Leadership at all

levels and within the diversity of institutions and local situations will be crucial.

participation of the community

Education can no longer be the prerogative of educational authorities alone; nor can the task of implementation be the sole responsibility of the educationist. There is need for wider participation in decision-making and in the practice of education by all concerned, such as teachers, students, parents, employers potential users, learners etc There is no democratisation of education unless the broad spectrum of people have the right to participate in the management of their educational institutions and in the evolution of educational policies For this a great deal of planned action is an imperative necessity now.

the political will

Lastly, the emergence of a policitcal will to transform education and to make it more relevant to the needs of the individual and of the community is of overriding importance. Such a will has been feeble and inadequate since Independence, and by and large those wielding political power gave little more than lip service and platitudes to the cause of education Its growing projection now with the promise of an abiding future is the most heartening contemporary development.

It is now time to move from empty rhetoric and pious lip service to clear and purposeful thinking and determined action All political parties can cooperate and even join together in bringing about the essential educational reforms urgently needed by our society. We must be determined to develop and use education for the service of development, national integration and unity, and the creation of moral and spiritual values for the enrichment of our immense human resources and a better quality of life for our people. I believe that this task of permanent importance can be achieved in a comparatively short span of time with the full deployment of the material and moral resources at the command of our nation and its mighty potentials

I have outlined briefly the overall problem of education and indicated certain directions of change and modalities of action. More comprehensive thinking and detailed planning are necessary for developing a national plan and policy of educational change with appropriate modalities of implementation built into it along with effective instrumentalities of review and evalution which are essential to the ongoing process of planning. The necessary intellectual, moral and material resources are not lacking, but these potentials require dedicated and enlightened leadership and disciplined and determined participation of all concerned The educational revolution of tomorrow poses a challenge to the planners of the future. □ □ □

Communication planning

Prof. S. Bashiruddin

Communication planning in India has been a problem since fifties. Since then freedom of Press was a formal article of belief with both the Government and the planners, says the author. A redeeming feature of Indian Communication planning is that we have not allowed the media to be submerged by an influx of alien forces or media contents to the deteriment of our cultural identity and sovereignty. As communication is a location-specific process, the strategy for media planning should be local and regional to serve as a catalyst for development. The author believes that in the years to come, communication has to play a major role as an instrument of bringing social change. The expanding net-work of UGC programmes would further widen its scope by introducing topics of training for teachers, nurses, rural development personnel and others, he maintains.

COMMUNICATION PLANNING IN INDIA HAS been faced with a problem since early 1950s: Whether to give free rein to massmedia and run the risk of being submerged in mass consumerism and foster a minority view-point of vested interests who have the wherewithal to buy time and space in the media or to restrict the growth of media due to lack of revenue and safeguard the interests of the broad masses and the under-privileged. In trying to strike a balance between these demands, the official media, especially the radio, has not expanded as required in a country of the size of India which needs atleast 450 programme-originating radio stations covering an equal number of districts to ensure access to the medium for the people.

Television, due to the recent liberalisation of commercial advertisements though regulated, has been able to develop faster since 1980 as its revenue from consumer advertisements has been much higher during the last 10 years compared to the over 25 years of commercial radio broadcasting in India.

committed to a free press

Since the formative years following the Nehruvian tradition, freedom of the press was a formal article of

belief with both the Government and the Planners, but the authorities were careful enough to distinguish between freedom for the journalists and the likely misuse of this freedom by the proprietors of the press or other media vested interests

Addressing the All India Newspaper Editor's Conference in 1954, Nehru once summed up: "For whom is the freedom of the press? Is it for the Editor in the defence of public interest? Or is it for the proprietor to defend his private interest?" He went on to answer that in a democracy editorials can be free but not necessarily the proprietorial view-points.

The Government has not yielded to pressures subtle or otherwise from press barons and industrial magnates although it has been concerned with the welfare and rights of the journalists in India as evidenced through the setting up of the First and Second Press Commissions, upholding the Palekar Committee's Award for revision of minimum wages as also the recent Bachawat Award. But even to this day its policy is to curb monopoly interests of the press as also to regulate newsprint which is a scarce commodity and involves the use of foreign exchange. The conspicuous consumer culture promoted by plethora of advertisements in the press has not been viewed favourably by the planners About 30 per cent of the circulation of the Press was owned by common ownership publications during 1986-87

Early in our communication plan, it was realised that a country with a rich cultural heritage and diversity of regional sub-cultures, varieties of languages and dialects as also ethnic and religious pluralism cannot have a monolithic communication structure or rigid centralised planning However, this has not been easy to put into practice in view of the various constraints and uneven economic, cultural and regional demands on the media made by the polity.

cultural sovereignty intact

A redeeming feature of India's communication planning is that we have not allowed the media to be submerged by an influx of alien forces or media contents to the detriment of our cultural identity and sovereignty Indian communication planning could have the satisfaction of retaining continuity of tradition with receptiveness to modernisation and social change although of late there have been some concessions made to consumerism, especially on the TV medium ostensibly for revenue purposes and may be to meet the audience taste. Also, our official media i.e. radio and television have not been swamped by conspicuous commercial manipulation or unrestrained consumer approach given to a market mechanism unlike the commercial film medium, which mostly caters to titillation and external glitter including the debasing of cultural traditions

slow growth of audio-visual media

This does not mean that the content of the audio-visual Governmental media is always in tune with the aspirations of the audience or for that matter the planners are responsive to constant monitoring of feedback for course correction The concept of audience resarch and collection of feed-back is also not fully integrated with the functioning of our audio-visual media although towards the end of the VI Plan and during the current plan this concept is being given greater attention. Indian planners, with limited priority, failed to take into account the need to invest in television during the first and second plans

The concept of formative research i.e pre-broadcast research had not taken roots in India till the late seventies.

The Films Division of the Government also started strengthening its role by producing weekly Indian News Review which was an excellent compendium of national developments and current envents to keep the people informed There was also the concept of Regional News Review produced by the Films Division as well as documentary films on topical, historical, cultural subjects of significance

The birth or the Community Development Projects and National Extension Services in October, 1952, aimed at rural development underlined the need for introducing the Radio Rural Forums in different parts of the country where villagers were exposed to community listening and follow-up discussions But the Radio Rural Forums did not function effectively in view of frequent breakdowns and lack of follow up efforts Several other units of Information and Broadcasting hardly reached the villagers

motivational approach

One of the major thrusts in the VII Plan is the human resources development with which to a considerable extent is linked the education and spread of literacy that forms the base of a media consuming and awakened population

There was a gap in the realisation of Indian planners that effective mass communication could be used for making people conscious of the need for socio-economic development and for spreading the fruits of such development In the first two plans, the human factor did not get the deserving thrust especially in media content planning and extension work By late 1950s, it was realised that our methods of media planning have to be changed

Though Television was a late comer to India in 1965, when from Delhi, regular TV programmes were started, the mid-seventies and the V Plan (1974-79) saw the expansion of television beyond the metropoliton cities of Bombay, Calcutta, Madras to Srinagar, Lucknow, Amritsar, Hyderabad, etc

SITE breakthrough

In communication planning, the peak was the heavy investment India made for the first time on

rural media Satellite Instructional Television Experiment (SITE) especially for rural viewers which was unusual in Indian planning. The one year (1st August, 1975 to 31st July, 1976) SITE schedule was a break-through in Indian communication experience. India entered media planning in a big way with the SITE programme, and it was also viewed as a model to be replicated by the other developing countries. Though the emphasis on our SITE Programme was education, it taught us the importance of television as powerful medium of communication especially in a largely illiterate society where hardly 40 percent of the people can read and write. The power of television to leapfrog centuries was established Since then India expanded this medium for entertainment cum information especially in a very big way during 1982-83 with the staging of the Asian Games in New Delhi and the Non-Aligned Heads of States Conference in 1983 when we switched over to colour television

In 1985 the Seventh Plan sensitised us to the urgent need for Communication Planning The country-wide class room programme of the UGC, FM Broadcast Stations being introduced in the district towns the introduction of low power relay transmitters in near 650 stations to relay programme of Doordarshan, etc point to our responding to these needs

The future of Indian media planning is also linked to a crystalisation of a functional media policy which calls for a certain maount of decentralisation and functional autonomy While district is the basic unit for planning, it was felt that a multi-cultural, multi-religious, multi-linguistic social polity such as India, needs a certain amount of centralised planning for retaining national unity and integrity It is axiomatic that in such a society there is also a greater need for flexibility and decentralisation so that there is a voluntary sense of unity leading to the development of federal nationalism

location-specific software

As communication is a location-specific process, the strategy for media planning should also be local and regional to attain the real objective to serve as a catalyst to development and change The approach to the Eighth Plan has struck then right note where district would be made the basis of formulation of plan proposals taking into consideration local and regional variations.

In the case of media planning, this much more crucial as media are an integral part of culture and the social ethos of a people. In India where we have mutiplicity in socio-cultural forces, great care should be taken to strike an optimum balance between centralised media planning and localised sesponse to the aspirations of the audience

At present, the press to some extent, i e with the 40 per cent literate population fulfils this need. Although, with the overall national interest, the contents of the press are not necessarily development and change-oriented, they are, to some extent, sensational and given to superficiality with a few exceptions The Indian film also has been catering to the common denominator of public taste without necessarily striving to uplift the aesthetic taste and the without necessarily striving to uplift the aesthetic taste and the emotional sensibilities of the movie-goers Depite 75 years of Indian Cinema, the film has not been fully utilised as a medium for development except by a few directors and the Governments' Films Division.

The radio has shown some maturity within the constraints of the day-to-day set up while reflecting both countinuity of tradition and innovativeness. However, it suffers from inadequate programme-originating stations In fact, the minimum number of radio stations that India needs today (not in the 21st century) is one for each district whether mediumwave or FM whereas there are less than 100 AIR stations of which less than 50 are fully programme-generating. India should have, in addition to the AIR Headquarters in New Delhi, powerful short-wave stations in metropolitan cities and all the capital cities, More importantly, there should be programme-originating radio stations in all the districts reflecting the communication needs of a semi-literate population This means that there should be 400-500 radio stations The starting of a national channel in 1988, though welcome, does not really meet the decentralised local communication needs of our multi-linguistic, multi-cultural, multi-region based radio listeners

response to audience

Likewise, our media planning also requires eventual adjustments to the regional and local variations of the country

Development through communication needs mobilisation efforts, not merely the addition of low-power TV transmitters of which the country has 335 today and by the end of the VII Plan, would even have 500 But what is really required is not addition of relay transmitters, but programme-originating TV stations for 4-5 districts so that the contents reflect the regional aspirations, thus truly meeting the needs of a participant democracy

Even in the VII Plan the investment on Communication including Telecommunications, Information & Broadcasting is just one per cent of the total outlay on public sector India needs even by conservative estimates at least 2 percent of the total investment for communication not only during the VII and VIII Plans, but atleast 1 5 percent in the annual budgetary allocations Further, the fact remains that only localised co-ordination leading to a regional and national focus i e coordinating network can meet the developmental media planning needs of India with a population of nearly 800 million

literacy drive needed

The Press also will develop when literacy level increases as the growth of the press is directly linked to the level of literacy. Our planning should also take into consideration the demand to strengthen wherever necessary educating atleast upto the fourth class level in districts before the end of the century so that we have a literate population of atleast 60 to 70 percent which, in turn, leads to a socially aware audience demanding developmental contents from the press and the mass media

district-taluq level media contents

It is in the growth of the district and taluq or mandal level newspapers and magazines in the language of the region that the strength of the print media really lies. Unlike the radio, television and the film, the print medium would take time to establish, as the pre-requisite for its growth is not just the spread of infrastructure but more important the capacity to read and develop taste for the printed matter In the case of radio, television and film, the availability of infrastructure and expansion coupled with the people's capacity to afford the radio, or expose to the community TV set would be sufficient to make it a participant medium with decentralisation and functional autonomy. But the press needs first the broadening of literacy base for real growth suited to our indigenous needs

The Indian Press has continued to maintain a steady growth during the last 5 years (1983-88) and register an annual growth rate of over 6 percent. The circulation of the press rose to as much of 10 percent during the years 1985-88

Literacy is the reason behind the large circulation of the press as proved by the Malayalam press which with a readership population of hardly 30 million i e less than 5 percent of Indians, has the third largest total circulation in the country of over 6 million copies i.e 20 copies of newspaper for 100 people, whereas Hindi, with a readership population of over 300 million has a circulation of only 18 million i.e 6 copies for every 100 people. Circulation increases have taken place in such languages as Bengali, Malayalam, Tamil, Marathi, Gujarti etc, all with higher literacy rates of over 45 to 70 percent. Nevertheless, the combined circulation of all news papers, is less than 60 million in a country of over 800 million i.e having only 7 percent sales of the print medium.

future scenario

In India's future communication scenario, the NAMEDIA feedback project report stresses that television should be considered part of a wider communication process with video as an integral component. Video and other non-broadcast communication media should be vigorously promoted on a massive scale. We must think of a comprehensive communication technology including computer and information storage and retrieval systems compatiable with our goals.

Continuous feedback studies, research and evaluation assessment are vital for television to be relevant, purposive and dynamic. Separate research agencies for different aspects of television activities including hardware need to be set up, operationally linked but organisationally distanced from the establishment

The Government plans to expand both television and radio network in the period ahead. By 1990 there would be nearly 50 TV proudction centres including one each in a state and Union territory During the VIII Plan, the decentralisation and regionalisation include greater scope for production of TV programmes in regional languages and expansion of television news network including full-fledged news coverage units in all TV stations Today there are 350 low-power TV stations and by the end of VII Plan the service would cover about 80 per cent of the population

In view of the low-purchasing power of the majority of Indian aduience, television in India would become a participant medium only when community television viewing is encouraged as a policy decision by the Government, the civic authorities, public sector corporations as also private industries in the years ahead. Certain percentage of investment is required on the installation and maintenance of community viewing to make television an instrument of development

functional autonomy for credibility

The Second Press Commission has suggested that even the official media requires professional autonomy and the Ministry and civil servants should therefore exercise self-restraint and merely lay down policy guidelines without interfering in the day-to-day work of Radio-TV.

Such a media policy could ensure greater credibility to the official media which would serve the public interest without fear or favour This guideline, no doubt, would be difficult to practice, but is worth striving for as a policy ideal

The second Press Commission, among other recommendations on the press and the media, has not dealt with the need for relaxing bureaucratic control over Doordarshan and AIR especially because TV today is the most powerful mass communication medium and therefore, it would be the most relevant medium to educate and entertain the illiterate population of India even by the year 2000 AD

In tune with India's diverse languages, customs, social mores and economic as well as regional imbalances, the media will have to cater to all these factors if it has to become effective.

consensus polity

Our communication media planning and policy is

not easy to evolve for it demands the broadest possible consensus reflecting the diverse spectra of opinion. The Press Council, which itself should be a voluntary body of the press, could take upon itself the implementation of the code of ethics for the Press.

Likewise, a Broadcast/Audio-visual Media Council could come into being to ensure minimal functional autonomy or at best non-interference in the media by bureacrats. Such a broadcasting outfit would be manned by professionals nominated by the Government and the Policy Planners, which would then deliver maximum mileage of information out-put both in the interest of national planners and the people.

The Indian Press, which is totally free and not subject to official planning or control, except in terms of control over supply of newsprint, has kept pace with the laws of demand and supply responding to peoples' needs though the minimum prescribed readership copies attained by newspapers is less than what NESCO has laid down. Indian Press during the last 40 years. has grown especially in the language editions but since the readership rate of all publication has only doubled and is projected to be around 60 millions there is, scope for growth of the print media

responsive communication plan

What is required is a responsive planning approach to radio and television in the country with more involvement of the people so that media reflects two-way communication process where feed-back is given as much importance in planning as also policy priorities

In media planning, time is not on our side and the distance of landmass and its variations are not in our favour Hence, we must make a cereful and determined effort to plan communication policy to overcome the problems faced by the country.

India has used media for fostering awareness, but we have not used media for mobilising people's energies on a war footing to face problems of drought, illiteracy, lack of hygiene, health, nutrition, family planning. etc.

The working group on TV software has also stressed the need for location-specific software which it termed "National in content but local in form" The concept of mass communication in a democracy is to ensure that the many have access to the media which would lead to democratization of communication.

Software planning has to be a conscious attempt to prevent misappropriation of the medium by forces of blatant commercialism and consumerism.

As the Report of the Working Group on softare for Doordarshan has said, "Software should be in the style of the people, by the people and for the people", which should be socially useful and in India should also overcome the illiteracy barrier particularly through the broadcast media

involvement-motivation model

The target of reducing population by the end of this century can be realized only by using communication support in a big way However, our communication modeals need to be culture-based and not merely geared to information transfer India needs "involvement-motivation models of communication" according to Dr. P.C. Joshi, whose views on "Communication and Nation Building" are relevant to our communication policy.

India will surge into the framework of communication technology to usher in an information society to face the VIII Plan and the plans beyond that for modernising the polity through the use of communication as an instrument of social change. Our communication planning would have to incorporate ways and means of crossing the illiteracy barrier, ensuring non-formal education with a nation-wide communication network

Rural India and its predominently tradition-bound societies need to be stirred up for participation in the developmental and innovative processes. Communication planning in the Indian context has to constantly monitor feed-back for implanting positive attitudes to solve problems of the people.

India's developmental history and experience demand that the media and technology for communication should be relevant and flexible, non-elitist and participatory in approach.

Educational television has gained ground in India as TV is being used for schools, Universities and for non-formal education. The UGC's Countrywide Class-Room spread through television network all over the country is a case in point

In the years ahead, there will be greater demands on TV for non-formal education as also continuing education through open Universities, the Central and State Government School telecasts etc.

With the special purpose training programmes for teachers, rural development personnel, auxillary workers, nurses, etc, there is greater scope of communication planning for wider application

The UGC's educational media research centres will be increasingly called upon to diversify their scope and cater to the need of the educational contents of a more purposeful and varied nature.

The very size of India and its survival demand that communication planning and media policy be given priority to galvanize the people for a participant democracy and to usher in a deve opment-oriented society. ☐ ☐ ☐

Social integration of the handicapped

Dr. George Mathew

We have a plan of Health for All by 2000 AD. Undoubtedly, the health of the nation is its greatest wealth and a primary concern of the government. Where does the "handicapped" fit in this plan? This question has been discussed at length by Dr. George Mathew, Director, Institute of Social Sciences, in the light of the findings of a detailed survey conducted by a team of experts. The handicapped, in his opinion, has not yet been socially integrated, and, as a consequence suffers from a sense of isolation and indifference by the society. The government and voluntary organisations in the country are doing a lot to train and rehabilitate the disabled persons, who are about 18 millions, still much remains to be done, as the traditional stigma sticking to the handicapped continues to influence the attitudes of a large number of people. The author points out that a handicapped should not be considered a disabled human being, but as a human being who has some sort of disability. Unless we bring about this change in our attitude, the social integration of the handicapped would be just a cry in wilderness.

ONE OF THE IMPORTANT EMPHASES OF national health policy is care and rehabilitation of the handicapped. The 1982 National Health Policy document had said: "Special, well-coordinated programmes should be launched to provide mental health care as well as medical care and the physical and social rehabilitation of those who are mentally retarded, deaf, dumb, blind, physically disabled, infirm and the aged. Also, suitably organised programmes would require to be launched to ensure against the prevention of various disabilities" Further the 20-point programme announced on August 20,1986 had, as its 8th point "Health for All" which included fighting blindness and other major diseases; paying speical attention to the programmes for the rehabilitation of the handicapped. The government had repeatedly asserted its faith in the voluntary organisations to achieve the targets set in solving the problems concerning the handicapped.

We in the Institute of Social Sciences made a study on the Situation of the Handicapped, in the country with special reference to Andhra Pradesh, Bihar, Maharashtra, Tamil Nadu and West Bengal. The

findings of the study completed recently will be of significance as we are determined to reach the goal of '**Health for All' by 2000 AD.**

Based on the 1981 population figure of 680 million, our country has 5.43 m orthopaedically handicapped, 3.47 m blind, 2.75 m deaf and dumb 0.62 m mentally handicapped, and 3.20 m leprosy afflicted, making a total of 15.47 m. Our estimate of handicapped in 1987 is 18 m, out of a total population of 788 m.

Our study focussed on institutions for rehabilitation of the handicapped-both government and privately managed We have found that in all the States except Bihar privately managed institutions outnumber those managed by the government. In Bihar, there are approximately the same number of government and private institutions, except for the institutions of the leprosy afflicted

"The agriculturally advanced States as well as the agriculturally advanced areas of the States have higher concentration of the orthopaedically handicapped. It has been suggested that partly the use of semi-modern farm equipments which cause serious injuries and partly the more urban-like (such as greater use of motor vehicles) life styles of the well off farmers, account for the higher prevalence rates of the handicapped."

distribution of handicapped

In general, the concentration of the handicapped in rural areas is higher than in urban areas, but in the States of Tamil Nadu and Maharashtra the proportions of the rural handicapped are smaller than in the other three States

When we consider all kinds of the handicapped, we find that the number of cases acquiring disabilities in early childhood and congenital cases is higher in rural areas than in urban areas, However, the number of cases of handicap occurring in later stages of life is little higher in urban areas than in rural areas One exception to this is found in the case of the orthopaedically handicapped. The agriculturally advanced States as well as the agriculturally advanced areas of the States have higher concentration of the orthopaedically handicapped. It has been suggested that partly the use of semi-modern farm equipments which cause serious injuries, and partly the more urban-like (such as greater use of motor vehicles) life styles of the well off farmers, account for the higher prevalence rates of the handicapped In our study, data available from parts of Andhra Pradesh (Krishna-Godavari delta), and parts of south-central Bihar (Nalanda, Patna, Gaya, Rohtas and Bhojpur districts) support this point

The rural concentration of the handicapped is higher due to various factors, such as poverty, malnutrition, and neglect of referring the cases of disabilities to competent physicians. A fall in infant mortality rate has also contributed to a rise in the number of children surviving with various handicaps.

In most categories of the handicapped, proportions of the male victims have been larger than those of female victims In the case of the blind, however the situation has been found to be just opposite, as, on an average, there are three blind females among every five blind persons. The higher prevalence of females among the blind is because of poorer nutrition which females in India traditionally receive, and a lack of proper care given in families for their female members

Among the deaf and dumb, 30 per cent of the deaf are congenital cases, but 76 per cent of the dumb cannot speak since infancy The prevalence of the deaf and dumb has been higher in the hilly areas of the country, such as Jalpaiguri, Darjeeling and Cooch Behar districts of West Bengal and the lower reaches of the river valleys in Purnea and Katihar districts of Bihar

Tamil Nadu and Andhra Pradesh have very high prevalence of leprosy cases High prevalence rates have also been found in the plateau areas of West Bengal and Bihar One of the surveys conducted in Bihar and West Bengal suggests that the highest prevalence rates of leprosy are found in areas of red soil However, more investigations have to be conducted to establish any causal link between characteristics of particular soil and prevalence rates of prevalence rates of leprosy

"We should emphasise here that eye camps are mostly conducted by various organisations as acts of benevolence towards the poor. The negligence and carelessness that characterise such camps also suggest *the attitude of the* surgeons and medical staff as well as the organisers towards the poor, who have no means of paying for medical treatment. We find that the best medical facilities are available *only at high costs, and therefore, only to the* rich."

There is a dearth of material to establish or estimate the total number of the mentally handicapped in the country. There have been some surveys conducted from time to time in small areas. The 1981 NSSO's survey tried to estimate the number of children with delayed mental development. One of the possible factors for mental retardation is the grim poverty. As poverty has been largely prevalent in rural and those designated as "backward regions", we may expect that the prevalence rate of mental retardation would be higher there. However, the other kinds of the mentally handicapped would

probably show a similar prevalence rates as the average in other parts of the world.

Nearly half of the cases of the orthopaedically handicapped, the blind, and the deaf and dumb, had never been referred to qualified physicians. Except in the case of the dumb about half the cases of the other kinds of the handicapped were caused due to old age. An overwhelming number of such cases have been found in rural areas where no care is taken for disabilities caused during old age. In the case of the blind, only a few eye camps proved to be successful. Even if the camp surgeons are competent, the lack of proper post-surgical care results in rendering some patients blind.

"While the government manages a few institutions for the handicapped in each State, the impression we get while reviewing their functioning is that their staff carry on their duties as a matter of routine, rather mechanically. Though, there are government institutions whose performance has been very commendable, such instances are very rare."

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Institutions

The majority of the institutions in all the States are concentrated in their capitals, and other large cities or towns. The State capitals have facilities for both treatment and rehabilitation of all kinds of the handicapped. The concentration of institutions in cities is presumably because they have a well developed infrastructure, including transport, hospitals, health workers, government offices as well as large concentrations of population. Naturally, private institutions with limited resources prefer to set up their institutions in cities and towns. This is not to suggest that the government has infinite resources, but of course, it does have much more than private agencies have. Moreover, it has the responsibility to develop all areas including rural ones.

Such a distribution of institutions has caused a serious problem to rural people. They have to travel to distant place to avail of such facilities. In fact, some of the districts in the States of our study, have no facilities at all for the care of the handicapped. People who live in villages, and particularly agricultural labourers, find in this a major dilemma, whether to take the family member to a rehabilitation institution altogether. In many cases, they give priority to wages since the whole family depends on daily income for its survival. We found that many cases of the handicapped specially in rural areas, were more of a result of ignorance and neglect than merely of a prior disease or disability. Some of them could have been prevented and/or controlled if proper care was given at the right time.

Private institutions for the handicapped have been in existence for a very long time, and are older than government ones. They were set up in the nineteenth century and early twentieth century by the early European missionaries who were engaged in this work. There appears to be a distinct feature of the Indian Government efforts on rehabilitation. That is, it provides financial support to the private institutions, but has not started many institutions itself. Naturally, there have been greater private initiatives in starting and managing the institutions

While the government manages a few institutions for the handicapped in each State, the impression we get while reviewing their functioning is that their staff carry on their duties as a matter of routine, rather mechanically. Though, there are government institutions whose performance has been very commendable, such instances are very rare. They appear to have been influenced to a greater extent by the bureaucratic ethos in the country, where precedence is given to rules and regulations, rather than to results. It also appears that the government rehabilitation staff do not feel much motivated to work, as they consider their jobs as mere means of earning a living than a worthy service to be provided to a group which has been much in need of it

While no general comment can be made on the functioning of the private institutions for the handicapped, we can mention some of the facilities they, in general, offer. They provide education and special training as well as impart vocational training in certain skills so that the handicapped can earn a livelihood by making simple handicraft products All the private institutions usually have some minimum facilities to help the handicapped, but given their capacities, only a small number can be rehabilitated through them. Various criteria are adopted for selection. Some consider the severity of handicap, while others consider the severity along with income levels of the families of the handicapped. Many institutions give preference to the poorer persons. However, the fact that some institutions waive the fee or charge for their training facilities has proved to have unfortunate consequences. While in many families the handicapped are given due care and attention, in some they are not. Such families place the handicapped persons in institutions and then avoid taking any further responsibilities of them on the assumption that the institutions will take care of them. The handicapped person thus comes to feel that the institution is the sole place of his survival and may not be able or willing to leave it after the completion of his training. Sometimes the handicapped

persons do not want to go home even during long vacations.

Most institutions impart training in skills such as candle making, weaving, and so on, which have little market value. As a result even after completing their vocational training the handicapped fail to get employment and earn a living. New areas of training, for instance light engineering, electronic industries provide far more employment opportunities than training in traditional trades, like candle or soap making. The deaf and dumb can and do undertake training in new trades. However, the common belief that the handicapped are capable of performing only the simplest of tasks, and can thus be trained only in

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the simplest of trades, creates major hurdle in their rehabilitation.

resources

The government provides all funds for the maintenance of the institutions run under its management. The staff of these institutions are considered government servants and are subject to the rules and conditions that apply to government employees in general

Privately managed institutions, on the other hand, get funds from various sources, including the government The sources other than the government are religious organisations, individual contributors, charitable trusts, coporate bodies and business houses, and foreign agencies. A private institution may get funds from different sources simultaneously The government has been an important contributor for the maintenance of private institutions.

Considering the inadequacy of resources (particularly financial) in the country, institutions in India have, for many years, depended on contributions from persons and agencies in other countries. Foreign funds have been crucial for the establishment and maintenance of many institutions. Previously, the private institutions freely received funds from abroad, however, the government recently imposed restrictions on their sources as well as quantum.

government policy

The prevailing opinion in the Central government is that the best way of helping the handicapped is by improving the living conditions through development programmes. The financial allocations for the institutions for the handicapped have not been raised in the successive five year national plans. The sixth and the seventh five-year plans virtually allocated the same amount on this head, despite incessant rise in prices. The prevailing official view that the government should help in rather preventing the incidence of new cases of handicaps, has a positive aspect, but the persons who are already handicapped are certainly in need of much more and better facilities for their rehabilitation. The government. on this count has made an erroneous judgement by not increasing allocations for their welfare.

destitution

A large proportion of the handicapped in India belongs to the poorer sections They are left in no position to support themselves through gainful employment and hence resort to begging at places of worship and religious conventions, congregations and festivals, where large number of devotees gather. They may also be found on busy thoroughfares in large towns and cities This practice is not encouraged in principle; however, many, through giving alms, have in fact helped in propagating the social institution of begging. While beggars themselves earn an income, this institution has to some extent come under the control of the underworld in large cities of the country The racketeers have established networks of beggars, place them in strategic locations, and take a proportion of their income every day This exploitation of the handicapped has been noticed for years, but so far no effective step has been taken to stop or at least control and prevent it from spreading.

who benefits ?

The government has various schemes, such as for aids, scholarships and so on, to help the handicapped to adapt to their handicaps as well as earn a living. They have been in existence for many years and have increased in number in recent years. However, the amount of money for their help has been very inadequate and in practice, they generally go to those who are already better off. The poorest, illiterate and lower caste persons generally do not get such benefits, which is mainly due to their ignorance about them. Moreover, even if they came to know about them, the process of applying for these benefits is too complicated, and it becomes even more difficult for the illiterate. The scribes and other middle men, who help the handicapped in the process, extract a portion of the grants for themselves, as a result handicapped get smaller amounts. In other instance, if the family is poor, the money given to the handicapped is taken by it and used to maintain the household. In this case, at least the family of the handicapped benefits, and not some stranger makes a living by acting as a middle man for the handicapped.

Even the scholarships, which make very small amounts, are normally not given to the poor handicapped. They are only for those who have achieved a certain level of education. Thus, the persons who are even eligible fo them are likely to be from the middle class. The special employment exchanges for the handicapped are also of more help to the educated middle class, rather than the poor and uneducated In all, the government financial support to the handicapped has largely proved to be beneficial for those who can be supported by their own families

Moreover, some of the government instituted schemes get subverted through corruption among those who are supposed to implement them We were, at times, told that the institutions, while asking for the government grants, had to make provisions to given part of the funds to various functionaries of the government It they did not do this, they would not get any money at all We find that some institutions which really need financial support do not get it from the government, though till the end of the financial year, budgetary allocations for the handicapped are not even fully utilised. The handicapped are not able to control or prevent such corruption, and their helplessness is in fact an additional factor for rise in corruption.

social integration

The underlying question or objective behind our study, and the evaluations we can make from our information are towards answering a question; whether there is or can be any social integration of the handicapped Our information suggests that it has not taken place

We have considered social integration in terms of the participation of the handicapped in activities of their families, schools, working places and in other social activities We have, of course, considered social integration as a very necessary attribute, and the objective of every institution for the handicapped should be to further it

We have referred to the schools and other institutions for education which have normal as well as handicapped children They ought to impart some initial training to handicapped children, and also to the teachers who teach them Otherwise the handicapped children may find it difficult to cope with the normal currioulum and interact with other children The problem the handicapped children face is, that the facilities provided in the so-called intergrated schools are not entirely conducive to the teaching of different kinds of the handicapped as well as normal children This has led to a less-than-successful implementation of the scheme of integrated schools However, the other side of the picture is, that when the handicapped children are taught in segregated institutions, they begin to consider themselves as part of the sub-society of fellow handicapped, and later find it difficult to intergrate and associate freely with normal persons.

The fundamental problem in social integration is the attitude of society. As long as people remain unaware about nature of disabilities and problems of the disabled, they would assume that the handicapped cannot be socially integrated. We have found that when normal persons meet the handicapped, they are either excessively solicitous about their welfare, or react in discomfiture, at times, teasing and ridiculing them. In short, the handicapped are in fact considered as a group apart, who can have any social life but only in the company of those who are similarly afflicted.

We observe that the handicapped children in the integrated school may cope with their studies if they are given some additional help particularly in initial stages, and some special coaching at other times However, in most integrated schools, the effort has not been made in this direction, since the teachers have been over-burdened with work We could witness the result of such a situation at a blind school located on the compound of another school for normal children The two kinds of children had hardly any occasion to interact either on or outside the campus

Under the circumstances, the idea of social integration cannot be said to have been accepted to any great extent in society. If we consider integration as a necessary attribute to social life, special emphasis has to be laid on the fact that a handicapped person should not be looked at as a disabled human being, but as a human being who has some disability

community orientation

If local self-government bodies are involved in the care of the handicapped, better accountability, community participation and judicious use of resources can be ensured Although government policies give importance to development, the rural handicapped get less attention In fact, within 'development' itself, more resources are being spent on building up institutions in urban areas and catering to smaller section of the better off handicapped These institutions receive enormous funds while the rural institutions hardly get any support

Foreign funding agencies which does heavy funding of institutions for rehabilitation follow this kind of lopsided policy which is not conducive to their social integration. When a handicapped child is placed in a rehabilitation institution in a city or town, he is uprooted from his village and family and tends to look down upon the village life Most of the rural handicapped who join the rehabilitation institutions thus end up in urban areas. The rural handicapped thus become the urban handicapped. A community based programme in villages is perhaps the answer to this serious dilemma.

conclusion

Of late, the idea that the handicapped are also part of our society, has begun, though slowly, to

(Contd. on page 100)

women's march towards equality

Dr. Jaya Kothai Pillai

Outlining the priorities assigned to women in the first three five year plans, the author says that a real shift from the welfare to the development aspect of women took place only during the Sixth Plan. This has inculcated confidence among women to bring about an awareness of their own potential for development as also of their rights and privileges. This paved the way for a National Perspective Plan for women which has recommended well articulated national policies for increasing the participation of women in development plans. It means, there have been conscious efforts to change the status of women from inequality to equality.

THE PREAMBLE TO THE CONSTITUTION OF INDIA resolved to secure to all its citizens—"Social, economic and political justice, liberty of thought expression, belief, faith and worship, equality of status and opportunities, dignity of the individual and the unity of the nation" Indian women are entitled to these rights just as men are Some of the specific directive principles are-free and compulsory education for all children up to the age of fourteen, right to an adequate means of livelihood, equal pay for equal work, maternity relief etc

The process of planned economic development in India began with the launching of the first five year plan in April 1951 The central purpose of planning has been to achieve a rapid rate of economic development with a view to raise the levels of living of the Indian people

women in the five year plans

The First Five Year Plan (1951-56) gave due attention to social services like health, education, sanitation, housing and rehabilitation to build up human capital The plan recognised the problems of high infant and maternal mortality and undertook to develop school feeding schemes, maternity centres and child health centres The Central Social Welfare Board was established by the Government in 1953 with a nation-wide programme of grants-in-aid for promoting development of women and chilren. The Board had its counterparts in the states and they provided assistance to voluntary agencies for improving and developing welfare programmes. This led to the growth of a number of women's organisations and provided status and activity to many of the erstwhile active women social workers Proliferation of mahilamandals is a striking phenomenon of this period

the second plan (1956-61)

As far as women's issues are concerned this plan persisted in welfare approach It recognised the need for organisation of women as workers, that women should be protected against injurious work, should receive maternity benefits and creches should be established for children in work places It also recommended speedy implementation of the principle of equal pay for equal work and provision of training to enable women compete for higher jobs.

In 1961, at the end of this plan period, it was reported that in the organised sector, due to the necessity of providing welfare measures, many of the employees were reluctant to employ women and the

participation rate of the female working force in comparison with the males declined. The participation rate of the female working force stood at 27.96 as against 57.12 for males. Further, as women were not encouraged to take technical training or on-the-job training, modernization of some industries like textiles, led to the displacement of women.

In the areas of health and education there was some progress. The literate percentage of females increased to 12.95 but still low, as compared to males, which was 43.44%. Expectation of life at birth in 1961 was 40.6 for females as against 41.9 for males. The decline in the sex ratio continued and in 1961 it stood at 941 famales per 1000 males. There was a spurt in the enrolment of girls in the educational system, the number of girls in school system being 42 per 100 boys and 16.2 girls per 100 men at the University stage.

the third plan (1961-66)

This plan focussed on expansion of girls education as a strategy for women's development. Efforts on providing condensed courses for adult women in health, nutrition and family planning were continued

the fourth plan (1969-1974)

The plan continued the emphasis on women's education. The outlay on family planning was stepped up, high priority was given to immunisation of pre-school children, supplementory diet for children, expectant and nursing mothers.

According to the census of 1971, the literacy percentage increased from 12 95 (1961) to 18 69% The literacy percentage of males increased to 39.56. Expectation of life at birth for females was 44.7 as compared to 46.4 for males Sex ratio continued to decline, the figure for 1971 being 930 per 1000 males Enrolment of girls in the education system continued to rise; in the school system, there were 54 girls for every 100 boys and in the university system, 21.9 girls per 100 boys enrolled. Thus the rate of progress of education of girls was very slow and there was wide gap between the education of boys and girls at all stages. Participation rate of female working force declined from 27.96 to 11.87 as against 52.51 for males, displacement of women continuing. The middle class educated women fared better, they assumed a new role as earning partners and they developed career interests. But as the several division of labour between men and women in the family was very pronounced, these women had to carry on the burden of two full time jobs.

the fifth plan (1974-79)

The Fifth Plan's major objective was removal of poverty and attainment of self-reliance. The declaration of emergency, and then change in the government in the centre upset the plan programmes and this plan was operated as annual plans. The Janatha Government modified some of the priorities and adult education and functional literacy received more emphasis. Functional literacy programmes to train women in the age group 15-45 in the functions of a house wife, including child care, nutrition, health care and home economy were stressed

Thus in all three plans, the priorities assigned to women's development programmes were mainly education, health and some aspects of welfare. The committee constituted to examine the social status of women by the Government of India in 1971 reported in December 1974. This report highlighted the following:

1. The majority of women were still not enjoying the rights and opportunities gauranteed to them by the constitution.
2. Increase in the incidence of dowry was lowering the status of women
3. Women were still ignorant of their legal rights regarding marriage, divorce, adoption, inheritance and maternity benefits.
4. Child marriage was still continuing and there was high incidence of suicide among young married women
5. Though there has been tremendous increase in the enrolment of girls in formal education since independence, there was still a wide gap between enrolment of boys and girls, and the proportion of girls in the relevant age groups in the school system was far below the constitution's target of universal education up to the age of 14
6. There was great disparity of educational progress of girls between urban and rural areas, region to region, among communities, religions etc The drop out ratio was very high among girls.
7. The declining sex ratio over several decades, high female maternal and infant mortality rates revealed the neglect of general public health services, maternity and child health services. There was over concentration on efforts for family planning
8. The impact of transition to modern economy has excluded a large number and proportion of women from active participation in the productive processes The majority of those who participate have no equal treatment, security of employment and humane conditions of work

This report recommended suitable measures for improving the status of women

A major outcome of the report was the National Plan of Action in 1976 which identified areas of health, family planning, nutrition, education, employment, legislation and social welare for formulating and implementing action programmes for women and called for planned intervention to improve the condition of women in India.

Women's Welfare and Development Bureau was set up under the Ministry of Social Welfare in 1976 to

act as a nodal point to initiate measures for women's development.

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The CSWI report of 1975 greatly influenced the Sixth Plan. For the first time there was a shift from welfare to development approaches for momen This plan recognised women's lack of access to resources as an important factor impeding their development. As the basic unit of development programming was still the 'family' and not the 'women', women benefitted very little.

the sixth plan (1980-85)

During the Sixth Plan period (1980-85) a variety of programmes, were taken up under different sectors of development to ameliorate the working conditions of women and to raise their economic and social status. vocational training centres and Industrial Training Institutes exclusively meant for women were set up The Integrated Rural Development Programme accorded priority to women heads of households, one-third of the beneficiaries under TRYSEM were women, and a new scheme called "Development of women and Children in Rural Areas' (DWACRA) was started in 1982-83 Training in a chosen economic activity such as weaving, fish Vending, rope making, brick making, candle making, baking etc along with the necessary infrastructure was provided

Non-formal education centres were set up exclusively for girls. To boost enrolment in primary classes, early childhood education centres were set up as adjuncts to primary schools Higher rates of scholarships were given to girls, belonging to scheduled tribes and scheduled classes Separate Universities for women were established in Tamilnadu and Andhrapradesh The Ministry of Social Welfare implemented a programme called "Functional Literacy for Adult Women " Under the scheme "Science and Technology for Women" a wide spectrum of activities such as smokeless chullahs, solar cookerss, bio-gas plants, water purificator system etc were taken up To reduce drudgery of women's day to day activities, improved agricultural implements, better methods of sheep rearing, wool spinning, post harvest activities, food processing, fish processing, pearl culture etc were taken up

Nutritional intervention to pregnant and nursing mothers belonging to weaker sections was given high priority under the ICDS programme. Hostels for working women, training cum production Centres for Women, assistance to women in distress etc were some of the schemes for which financial assistance was given to voluntary organisations

the seventh plan (1985-90)

The basic approach was to inculcate confidence among women to bring about an wareness of their own potential for development as also of their rights and privilages. The plan emphasised the need to open new avenues of work for women and proclaim them as a crucial resouces for the development of the country. Besides access of women to land, support through credit marketing, training in skills and management were included. The plan saw the need to organise women workers so that they could demand their rights for services The plan also acknowledged the long hours spent by women within the household as well as their labour in farms or family business.

The Government of India constituted a separate department in the Ministry of Human Resource Development, for the development of women and children This department plans and executes programmes for women besides monitoring the programmes meant for women in other ministries and departments

The thrust of the various programmes are on providing employment and income generation services, education and training services, support services, general awareness services and legal support services Women's development corporations have been set up by a few State Governments for training and employment of women from weaker sections of society The Department of Women and Child Development has floated many programmes like providing short-stay homes for women and girls in moral danger, counselling, medical care, psychiatric guidance, preventive rehabilitative services to women and children who are victims of atrocities and exploitation The total out lay on the women specific schemes in the VIIth Plan is 2 4%.

The Department of Women and Child Development set up a core group to evaluate the impact of developmental plans and programme on Indian women and review the policies and programmes and draft perspective plan for 1988-2000 A.D This document was released in October 1988

The overall approach of this National Perspective Plan is to perceive women in a holistic manner This plan has made sectoral reviews of the situation of women in Rural Development, Employment, Supportive Services, Education, Health, Legislature, Political Participation and Media and Communication and suggested inter linkages and converging strategies. The specific recommendation of this plan is that well articulated national policies with specific objectives should be formulated for increasing the participation of women in developmental plans. These should aim at the creation of services to women so as to enable them to participate more fully in economic growth and social progress

This plan, recognises the importance of women's potential as a human resource, and the most critical input for development as training. The establishment of an apex body for women's training in the country is

urged and this body would be responsible for reorientation and sensitization of the administrative machinery at all levels to the issues of women in development This apex body would be responsible for revamping the existing content/methodology and monitoring the training of catalyst functionaries

This plan also recommends that a commissioner for women's rights should be appointed for the enforcement of law to ensure women's rights The unpaid work of women in the household and outside and its value was to be taken into account and a conceptual clarity on 'work and 'non work' and their economic value should be examined

A reservation of 30% seats in all elected bodies as a transitionary measure is necessary to ensure that women have the opportunity to enjoy equal policial status with ıen

The plan reiterates strengthening of minimum needs programme, women's access to productive resources such as land and credit inputs, review of property laws to ensure women's access to property rights, women oriented wasteland development programmes of social forestry, skill training for women in agriculture, animal husbandry and other related employment, unionising of women, expansion of insurance cover, maternity and other benefits, specical training programme for rural women entrepreneurship, appropriate technology for drudgery reduction and enhancing productivity, supportive services for women in distress, legal aid centres,counselling centres creche/day care facilities, special cells to enforce legislation on job security, working conditions, minimum wages, equal pay for equal work etc which should be extended to unorganised sectors, use of media to create awareness for women's education and their active role in economic, political development of the nation, adult education programmes, banning amniocentesis for sex determination, , strengthening ICDS programmes to ensure girl child's equal access to health care, sex and family planning education in schools, colleges and universities encouraging folk media for reaching women in rural areas, uniform civil code for all citizens etc.

To sum up, the government articulated the norm of equality through the constitution and tried to achieve the goal by enacting laws for ushering social change, planned economic development and strengthening voluntary agencies for welfare activities In effect,free India provided a basic framework for possible improvement of women's status There have been conscious efforts to change the position of women from inequality to equality

Some of the achievements in improving the status of women are, the expectation of life at birth has improved from 44.7 in 1971 to 52 9 years in 1981. The sex ratio has registered a slight rise from 930 to 933 per thousand males in 1981, the average age at marriage for girls has gone up to 18.3 years as against 17.2 years in 1971, the focus in the programmes for women has shifted from welfare to development, there is more involvement of women in the planning and implementation processes at all levels, efforts for removing sexist bias and promotion of the value of equality through school curricula, beneficiary oriented schemes specially for women, several legislative enactments and amendments to protect the interest of women etc

As against this rosy picture, there are several dismal factors too

Hardly 25% of our women are literate, among the rural women, 83% are illiterate; over 90% of the women work in unorganised sectors, where no child care or maternity benefits are available; number of unemployed girls who have completed school has risen to 51 lakhs, 65% of the pregnant women are found to be anaemic, infant mortality rate in the first year of birth is about 10%, children dying of malnutrition before the age of 5 is about 40%.

The menace of dowry, violence against women, sexual harassment, damaging portrayal of women in the media, infanticide, foeticide etc are growing.

In many cases, employment has not increased women's status as women do not have control over the productivity of labour Less than 1% of the property is owned by women

There is continued inequality and vulnerability of women in all sectors—economic, social, political, education and health care, nutrition and legal" states the perspective plan

The Government have offered welfare schemes for women; they have floated anti poverty programmes They have enacted legislation to safeguard women's rights The Government policies can only facilitate the process It is the women themselves who should become conscious of their inequality and oppression and seize all available opportunites to improve their status. It is heartening to note that during the last two decades, women's Voluntary Organisations have been quite active taking up issues like violence against women, rape, dowry death, sati glorification,media distortion of women's image, problem of working women,dual burden of women, gender discrimination etc.and in general a wide spread awareness is being created among men and women at all levels and it is hoped that during the 21st century, women would march towards equality in the real sense. □ □ □

(Contd. from page 96)

gain acceptance. The handicapped are now seen not merely as objects of charity, but as those who can be subjects of their respective societies by fully participating in them. It is evident that we have miles to go to achieve the targets set in various important national declarations on health in the area of care for the handicapped. □ □ □

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Next issue

INDUSTRY

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4.9 lakh new houses

Over 4.9 lakh dwelling units had been constructed upto March, 1989 in different parts of the country under the *Indira Awas Yojana* which was introduced by the Central Government during 1985-86.

The Central sector scheme was launched exclusively for the Scheduled Castes, Scheduled Tribes and forced bonded labourers in rural areas who are having poor and sub-standard housing facilities, with a thrust on employment generation. The Scheme aims at providing not only housing units, but also developing micro-habitat with basic amenities like approach roads, drainage, water supply and sanitation.

The Scheme being implementated by the Department of Rural Development under the Rural Landless Employment Guarantee Programme (RLEGP), is monitored by the Ministry of Urban Development.

The achievement of over 1.26 lakh dwelling units in 1988-89 represented 94 per cent of the target of over 1.34 lakh units set for the year. The highest number of dwelling units constructed during the year under the Yojana was 26977 units in Tamil Nadu followed by 23871 in Uttar Pradesh, 15655 in Bihar, 9948 in Andhra Pradesh, 8554 in Kerala, 7613 in Maharashtra, 6857 in Madhya Pradesh, 6178 in West Bengal, 5958 in Orissa, 4044 in Gujarat, 4027 in Rajasthan, 1487 in Jammu and Kashmir, 1216 in Haryana, 865 in Karnataka, 783 in Himachal Pradesh, 719 in Assam, 391 in Tripura, 251 in Nagaland, 205 in Meghalaya, 150 in Sikkim, 111 in Manipur, 102 in Goa, 84 units each in Arunachal Pradesh and Pondicherry, 70 each in Mizoram and Andaman and Nicobar Islands, and 59 in Dadar and Nagar Haveli.

Funds are earmarked for the scheme on a year-to-year basis and a sum of Rs. 124 crores was allocated for the purpose during 1988-89 out of which Rs. 85.17 crores had been utilised. ■■■

Oil seeds earn foreign exchange

For the first time in last ten years, the oilseeds sector is all set to emerge a net contributor to the foreign exchange reserve. Following successively good oilseeds harvests, the imports in the oil year 1988-89 are expected to be less than half of the preceding year's level, saving atleast Rs. 500 crores in foreign exchange. On the other hand, the exports of oilseed derivatives are likely to exceed Rs. 600 crores. This will result in a net inflow of foreign exchange worth Rs. 100 crores.

The Oilseeds Technology Mission, on which the responsibility of all-round growth of oilseeds sector lay, had set a production target of 15.6 million tonnes for 1988-89. The target is expected to be exceeded by a comfortable margin. This production represents an increase of more than 33 per cent over the previous year's level. ■■■

BHARAT ELECTRONICS

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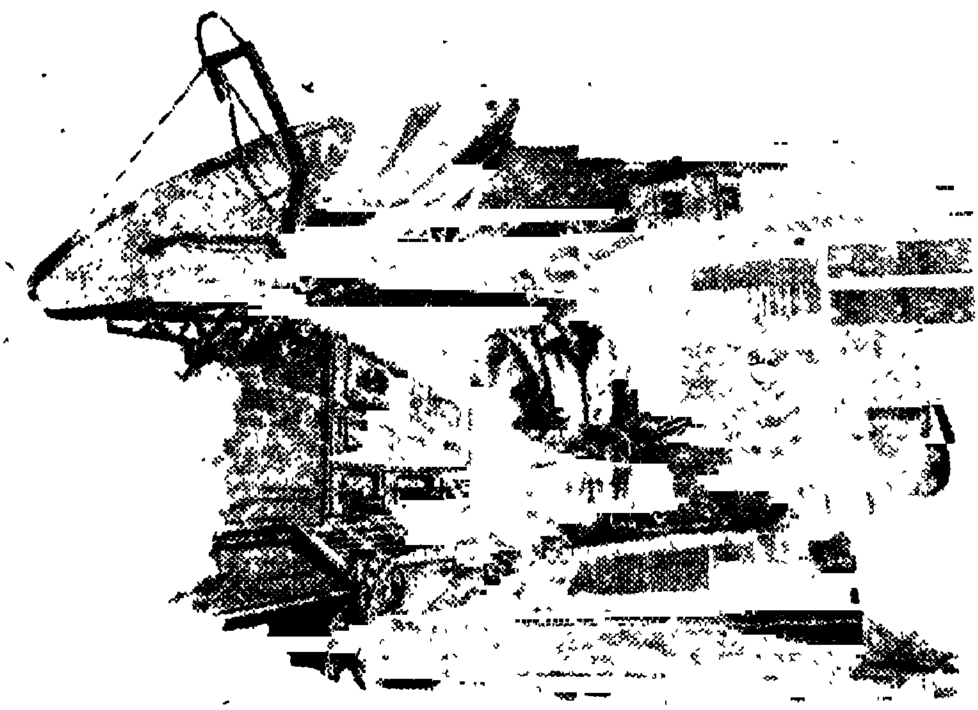
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National housing bank

K. Elumalai

The policy guidelines formulated by the National Housing Bank reveal that NHB's Home Loan Account Scheme is intended for those who are socially and economically well-off. The rural poor who are unable to save anything due to utmost proverty may not find the scheme feasible. Equally is the case with slum dwellers. The author, in this article, vociferously advocates authorising the unauthorised colonies in the metros with a view to solving the problem of housing in metropolitan cities.

THE NATIONAL HOUSING BANK WAS created through an act of Parliament in July 1989 with the principal objective of promoting a healthy housing financial system and providing adequate finance to the housing sector The conditions for availing housing loans are more or less similar to any other housing loans initiated by government or government owned institutions However there are a few salient features of this scheme They are: Any individual major or minor, not owning a house anywhere in India can open a House Loan Account (HLA) with any branch of the designated scheduled bank in India (Non-resident Indians can also open a HLA). Transfer of account from one branch to another branch of the same bank is permitted Inter-bank branch transfer is also possible with the mutual consent of both the banks. After subscribing for a minimum period of 5 years or thereafter the member will be eligible for a loan from the concerned bank to acquire a new house/flat: In the intervening period of 5 years from the commencement of the scheme, the bank will give housing loan to members on preferential basis but on the terms stipulated by RBI The amount of loan to be given by a bank under the scheme after the member subscribes for a minimum period of 5 years will be as follows:

For built-up accommodation	Loan in multiples
(a) upto 40 sq mts (or) 430 sq ft	4 times the accumulated saving
(b) upto 80 sq. mts (or) 860 sq ft	3 times of the accumulated saving
(c) above 80 sq. mts (or) 860 sq. ft	2 times of the accumulated saving

The maximum ceiling under this loan is Rs. 3 lakhs. The amount of loan will however be limited to the repaying capacity of the beneficiary assessed by the bank. It may not normally exceed 2¼ times the annual income For instance the annual income should be Rs 1 20 lakhs to obtain a maximum loan amount of Rs 3 lakhs.

Different rates of interest are prescribed keeping in view the repaying capacity of the lower income groups and tax concessions admissible to the higher income groups These rates are generally 1 5 to 2.0 percent lower than the present interest rates charged by scheduled banks A loan under this scheme will not bar a loan from anyother source i.e a member can obtain a loan from his or her employer or a cooperative society or anyother agency (i.e. LIC) and still avail loan under this scheme. Loans granted under this scheme are proposed to be covered by a Group Insurance Scheme to protect the legal heirs. The premium will be borne by the scheduled banks in respect of borrowers who obtain Rs. 50,000 and by the borrowers in respect of loans above Rs. 50,000. At the time of opening the account, a member is required to indicate the likely place where he/she proposes to acquire residential accommodation and the size thereof However, there is no commitment by the NHB to offer a plot/house and in some (Metropolitan areas) places, it may not be possible at all

A deep scanning of policy guidelines formulated by the NHB, although reveals that this scheme is

intended for, only those who do not own a house/flat anywhere in India, the limitless (upper limit) saving slab prescribed on the one hand and No Bar Clause for availing housing finance facility from other sources (i.e. LIC, Employer, Co-operative Societies etc.) on the other hand makes such belief a farce. In the other words, it is very difficult to presume that a person capable of saving Rs. 2000 per month (after paying income tax and other taxes on the total income-one may calculate what ought to be the total income of a person whose capcity to save is Rs. 2000/- per month and his economic and social status) might not own a house anywhere in India (does it mean that such a person may/can own a flat outside India).

The benefit of this scheme extended to Non-Resident Indians also does not convey any logic as there are several other schemes granting benefit to them with a view to attracting foreign exchange. Therefore, the opening of this scheme to higher income groups and NRIs is baseless as they can well afford to purchase a flat/house at market price.

The history has proved beyond anybody's doubt in India that the benefits of governmental welfare programmes are being reaped by the few lucky ones who are socially and economically well off. And, this scheme has in fact sowed seeds already by way of opening it to such socially and economically well-off people for open harvest. Added to this-the absence of verification (as per the policy guidelines issued so far), for not owning a flat/house, No BAR CLAUSE and, discretion given to banks for releasing the loans before the completion of five years on preferential basis-are the licenced gateways leading to favouritism to the lucky few.

Rural villages and practicability

This scheme is to be implemented by all the branches of scheduled banks from 1 7 89. As on 1981, there are 5.78 lakh villages India. As on Dec 1988, the all scheduled banks' rural branches stood at 31641. We may safely say, from this, that banking facility is available in these many villages and the same facility is not available in the remaining 5.46 lakhs villages. Under Service Area Approach, it has already been acknowledged that some branches have been allocated more than 100 villages each, meaning thereby banking facility is not in the vicinity of the people living in these villages, but the one mentioned. In order to take advantage of this scheme, the rural people living in the remaining 5.46 lakh villages have to take padayatras/bus yatras to the nearest branch every month (or quarter) by foregoing their daily bread earning, just to deposit Rs. 30 (or Rs. 90) in anticipation of realising the dream that they will own a house/flat after five years. The saving pattern, behaviour and capacity is another limb of uncertainty over the practical aspect of the implementation of this scheme. The rural India is sharply divided between rural rich and the rural poor tiny land holders and landless labourers residing in roof-less huts.

Metros and other graded cities

The housing problem has become an acute problem not only in the metropolitan cities but also in graded cities, state capitals and industrial belts like Bangalore, Hydrabad, Kanpur etc. The well paid salaried group have to channel at least 25% to 50% of their take home salary towards getting a tiny accommodation. The others who can not afford this much have to settle in colonies (popularly called unauthorised colonies) at far off places from the place of work which do not have adequate civic amenities. The still leftouts march towards slums where civic amenities can't be imagined. The flat/plot rates in these cities are rising continuously day by day. The government has virtually no control at all over such sky-rocketing rates. The legislation prescribing upper ceiling on sale value of properties could not serve any purpose. The unofficial value of the properties (it refers to the quantum of money the purchaser has to pay to the seller/tranferer over and above the maket rate entered in the deed) in most of the cases is in multiples of market values, in metropolitan cities. This is the benefit that such legislation brought in to the sellers at the cost of buyers-please remember that such legislations are enacted for helping the purchasers but not the sellers. If the government is interested in knowing more about it, they may carry out a quick survey on the growth of property dealers in such places. The continuous decrease in the purchasing power of rupee on the one hand and sky-rocketing rates of flat/house on the other has brought the ambition on owning a house particularly in these cities beyond realisation. The NHB has cleverly included a clause which says that 'in some places it may not be possible to provide house/flats/built up accommodations'. This clause shall be invoked in these cities after five years because of the fact that the government as well as public are well aware of the impossibility.

Moreover, why the government after knowing full well the fact that the house/flat rates in metropolitan cities are many times more than that in rural areas, did'nt make provision in the scheme favouring people living in these cities by enhanced loan amount in multiples of amount saved, is beyond the understanding of all. To be more precise, the policy makers would have, in addition to prescribing different loan limits in multiples on the bases of size of flat/house, to be purchased/constructed, also prescribed such different limits for different areas (i.e. metropolitan, urban, semi-urban and rural. The above said lapse clearly indicates that this scheme is drawn without proper application of mind.

The purchasing power of rupees and the projected value at 1994 is given in Table-2 for understanding the impossibility of getting an accommodation in these cities.

Even if the current flat/house rates remains unchanged (which assumption is practically

impossible) in metropolitan cities in the years to come, the purchaser will have to pay more than double the price of to-day in 1994 for the same accommodation, the increase of which is due to decreasing purchasing power of rupee value. In the said circumstances, is this scheme going to help the houseless people to acquire house/flat is not beyond predictions ?

Table II.

Purchasing power of rupee in relation to 1960 prices

Year	*Purchasing power in paise*	*Average annual decrease (in paise)*	*Quantum of money required to purchase Rs. 100 worth at 1960 prises*
1961	96.2	3.80	104
1965	73.2	4 75	137
1970	54 3	3 78	184
1975	31.2	4.78	321
1980	25.6	1 12	391
1985	16.4	1 84	610
1988	12 5	1 30	800
1994@	6 0	1 00	1667

@: Estimate.

Slum dwellers

The mushroom growth of slums in and around the above mentioned cities is no less a small problem. As on Dec. 1981, the population of slum dwellers in four metropolitan cities was 90.22 lakhs. (see table III) This population would exceed 2.25 crore by 1995 @ 10% average annual growth rate. If the family size is taken as six, then there will be 37.58 lakh slum housing units by 1995. To provide housing site @ 40 Sq. Mt. per family, the government must acquire 37,134 acres of land within the four city limits. In these circumstances, the possibility and practicability of this scheme towards slum dwellers is beyond imagination.

Even if we assume (this is an imaginary assumption only) that the government out of its political will, is in a position to acquire these many acres of land for slum dwellers, whether the slum dwellers would be in a position to acquire such flat/house/plot within the loan amount of Rs. 9200 available in 1994 by saving Rs. 30 every month, is worth questioning. Wherefore, this scheme, in all probability, is going to be a pipe dream for slum dwellers

Suggestions

With regard to rural people, this scheme should also be implemented through post office as it is not practically possible for the over 50 crore people living in the remaining 5.46 lakhs villages, (where banking facility is not available) to have regular contact with bank branches. In addition, the government may direct the rural branches to provide mobile services on specified days (Non-public business working days to these people)

State government should assure free plots to the poorest of the poor and plots at marginal cost to the poor people at the earliest. The state government of Tamil Nadu has long back started this practice. The other states may also be asked to fall in line. In order to cultivate faith in government (and their schemes) the above policy measure is essential. The recovery of loans advanced to construct houses should be collected alongwith land revenue to avoid the problem of recovery.

In Metropolitan cities, there are hundreds of unauthorised colonies. Civic amenities are generally denied, or if provided, only at the whims and fancies of authorities concerned. If the government is really interested in mitigating housing problem, they should at once grant authorisation to

Table III

Estimates of Growth of Slum Dwellers in Metropolitan Cities

(in lakhs)

		Bombay	Calcutta	Delhi	Madras	Total
I	Slum dwellers (Popu) as on 1981 £	24.31	30.28	18.00	13.63	90.63
	1989 $	53 78	57.53	34.20	25.90	171.41
	1995 $	70 77	75.70	45.00	34.03	225.03
II	No of slum housing units (family @ 6 persons per family. As on 1989	8.96	9.59	5.70	4.32	28.57
	1995	11 80	12.61	7.50	5.87	37.58
iii	No. of acres required @ 40 Sq. Mt. per housing slum unit (actual no) As on 1989	8853.75	9476 28	5632.41	4268.77	28231.22
	1995	11660.07	12460.47	7411 06	5662.77	37184.38

£ Statistical outline of India 1988-89, Tata Services Limited: Deppt. of Economics & Statistics Bombay.

$ Estimated by keeping 10% as the average annual growth rate.

Note: 10,000 Sq mtr = 2.47 acre

(Contd. on page 34)

Stop the beeline to cities !

Navin Chandra Joshi

The author here discusses one of the vital problems in India-Housing; and specially takes up the cause of the shelterless urban dwellers in big cities. Urging the powers that be to put a stop to the beeline made to the cities by village folk in search of a better living, the author stresses the need to amend the Urban Land Ceiling and Regulation Act of 1976 and suggests that construction activities in India be declared an industry, so that benefits available to industries may also be availed in construction of houses for the shelterless.

TODAY, INDIA'S URBAN POPULATION IS around 160 million which gives us the fourth largest urban population in the world. By and large, urban growth has taken place by an enlargement of the existing cities. Almost 27 per cent of our urban population is concentrated in 12 major cities. It is estimated that by 2000 A.D. some 300 to 400 million people would be living in India's urban areas There will be 22 cities with a population of more than a million each and 610 cities with population strength varying between 50,000 and 5 lakhs. This trend of disproportionate increase in urban population is mainly due to mass migration of poor people from rural areas They flock to cities in search of a better life in every sense The growing pressure on agricultural land and the lure of imaginary or real glittering urban life have been quite encouraging to uneducated, unskilled or semi-skilled people to leave their rural mooring and to rush to cities. There they find their habitation only in slums and shanty towns.

Housing scenario

Presently the housing scenario is such that between one-fourth and half the urban population in most large cities of the country live in makeshift shelters, squatter settlements or slums Most people cannot afford even the cheapest houses available in the urban market The situation is worse in rural areas where 75 per cent of the constructions are classified as semi-permanent or non-permanent. The need for housing has become so acute that all lands in the periphery of towns are threatened to be converted to urban land for construction work. The picture is more acute near the metropolitan towns where contiguous land is not available in plenty also. Already, shortages have been in evidence to meet the growing requirements of immigrants and the towns are bursting at the seams. If some redical measures are not adopted, the already serious problem of slums will become more appalling.

Urban planners have to check the growing problem of migration of rural population to urban centres. Historical chronicle of urbanisation at the turn of the century, reveals that whereas the urban population increased by 500 per cent, number of settlements grew only by 77 per cent. This poses an important issue of accomodating additional population in the existing settlements, thus creating a problem of density as well as over-heating of the urban system The per capita availability of land which was 0.94 hectare in 1951 would decline to 0.33 hectare by 2000 A D Thus, the dwindling land-man ratio poses a serious challenge for town and country planners to optimise the use of land resources in different sectors

At present, about 17 8 million hectares of land is under various urban and rural settlements, including space used for road, railways, water bodies, mines and industrial establishments It is estimated that an additional six million hectares of land will be required for non-agricultural purposes by the turn of the century. It has also been estimated that by 2000 A D , human population will be nearing one billion mark The 1981 census revealed that 538 towns in India, each with a population of five lakhs and less has grown at a rate higher than the national urban growth rate i.e , 46.02 per cent during the current decade. If the needs of these towns are taken care of in time then they can become the future destination of the uncommitted migrants. In the furture scenario, both for urban and rural development, it is the non-committed population which will play an extremely crucial role.

Stop the beeline

In any case, we have to put a stop to the people living in the villages from making a beeline to cities Since the problem is mainly economic rather than social, the steps taken so far to diversify economic activity to smaller or ring towns have somehow not had the desired results We have to learn a lesson in **this respect from what is being done in eastern-bloc** countries, including the Soviet Union. A Soviet villager or an outsider from small towns cannot just enter Moscow in search of a job or stay there indefinitely without a proper work permit. It seems that our government needs to launch a similar scheme to dissuade villagers from flocking to the towns but before that we have to make the villages and their periphery more attractive for employment purposes. The housing problem poses as much a challenge for the government as issues like inflation, unemployment and poverty do It is time that a national perspective is now clearly thought of for giving shelter to all, much before the twenty-first century heralds

At the beginning of the Seventh Plan, housing shortage in the country was estimated to be of the order of 24.7 million units-18 8 units in rural and 5 9 million in urban areas This is expected to grow to 40 9 million by 1990, which means 31 2 million in rural and 9 7 million units in urban areas Therefore, to meet this colossal task, a multi-pronged strategy needs to be evolved which will include a reorientation of all policies relating to housing including that of housing finance

It is also true that any attempt to reduce state responsibility for housing the poor will expose them fully to the market forces, with the fiscal and other incentives pushing land and building material prices skyhigh Land, both in urban and rural areas, has become part of the big industry-big business syndrome, with builders, financiers, contractors, promoters and estate agents cornering vast tracts and putting them to profit-oriented use

National housing policy

It was, therefore, appropriate that a national housing policy was presented in Parliament on November 22, 1988 for eradicating houselessness, curbing building of luxury houses, upgrading village houses and reducing over-crowding in urban areas. Among other things, the policy intends to upgrade all kutcha houses in urban areas also along with improving the housing conditions of slum dwellers, squatters and other economically weaker sections. But then, whether the new housing policy will be able to set at naught the serious problems of high land costs in urban areas, degrading slum conditions and more than anything else, the drift towards urbanisation that likely to bring collapse of big cities, remains a million dollar question

Need to amend

The Urban Development Ministry at the Centre, therefore, needs to suitably amend the Urban Land (Ceiling and Regulation) Act of 1976 as it has failed to check speculation and profiteering. The pious objective should be to bring about an equitable distribution of land for subserving the common good of the people, belonging to various economic strata of the society. Unfortunately, the 1976 Act has caused corruption and large scale malpractices. Since the government offered very low rates of compensation to farmers while acquiring land, and as is provided for in the Act, there has been a tendency on the part of the farmers to transfer the land to middlemen for urbanisation purposes. In the process, the middlemen prospered by constructing houses and flats. The Act exempted land used for agricultural purposes but certain provisions by way of explanations have negated this intension. These explanations state that notwithstanding anything contained in the Act, if the Master Plan for the area specified a different land-use for the land, it ceased to be agricultural land and would come under the purview of the Act. This was adversely affecting the farmers who were cultivating land for several years

The new housing policy must declare that providing shelter to the homeless is a basic human right which, indeed, should be enshrined in the Constitution We should pursue a policy which would eliminate the housing shortage which is currently estimated at over 25 million dwelling units. The campaign for human rights involves the question of preventing eviction of poor people from their existing dwelling units along with the construction of new houses There is an urgent need for stopping people living in the villages from making a beeline to cities While the problem is mainly economic rather than social, the steps taken to diversify economic activity to smaller or ring towns have somehow not brought the desired results.

Declare it an industry

In any case, now is the time to declare construction activity in this country as an industry so that all benefits available to industry are availed of in the matter of construction of houses for the shelterless. The private sector must assume a greater role in providing housing facilities to the people It is time **that the government enunciates a new housing policy which gives shelter to the homeless rather than getting bogged down to avoidable technicalities and legalistic impediments. In fact, even mere creation of institutions within the prevailing legal and financial framework also will not do.**

There is no doubt that hurdles like rent control, transfer of property and house mortgage stipulations serve as stumbling blocks for giving an impetus to housing activity in the country Besides, housing construction costs have to be kept under control and timely delivery of houses ensured. The recent establishment of the National Housing Bank, as an apex institution with a capital contribution of Rs 100 crores from the Reserve Bank, may encourage

(Contd. on page 20)

Urban Management

Arup Khan

Urban management encompasses every component of urban problems and its main focus lies in identifying these components and finding out the optimal solution for them. It is not purely managerial, technical and financial: but has certain character and style, says the author. These are spelt out by him in this article.

DEVELOPMENT AND MANAGEMENT PROBLEMS in metropolitan areas are common in India since a long time. Many years before intense urbanization took place, urban development and management in India consisted of a few day-to-day functions, as the delivery of certain essential public services, i.e. health care, water supply, sanitation, primary education and so on. To maintain and improve these related development works, city government has to finance these functions either from their internal sources or from other external sources like state or central government grants, market borrowings etc. The discharge of these functions or routine tasks had become organized on traditional developmental and hierarchical lines, which were defined by some slowly growing but various rules and regulations.

Urban Management

Urban management is a broad term which encompasses each and every component of urban problems. Mainly these components are over influx of labour from rural to urban areas, financial resource management, maintenance, supervision, implementation of any type of programmes, projects, i.e. water supply scheme, *Bustee* ,improvement programme etc. The main focus of urban management lies in identifying and attacking the above components and finding out the optimal solution for it. In a nutshell, the domain of urban management encompasses the social, political aspects of urban development. For example, in any urban area, creation of new assets and services is necessary to sustain the spontaneous development and improvement of the existing situation. There are a number of stages in the management process. In Indian context, the existing management structure or managerial system cannot take care of all the aspects of urban development due to certain inherent socio-politico-economic-legal problems. Therefore, in India the approach of urban management is emphasized on leadership, will, judgement and intention in which contemporary political and societal values become the final orbit of choice.

Planned Urban Development

Now the basic question is, What is the difference between planned urban development and urban management ? Planned urban development is not necessarily confined to long term or short term development projects. It is also a day-to day affair which is not only restricted to execution of works of different dimensions but also giving guidelines to both public and private agencies, undertaking every type of urban development activity within the urban area.

The existing local body or the agency shares the benefits as well as the ill-effects and consequences of planned urban development. The local body being the lowest rung of democratic institutions has also the obligation to ensure planned development. In the process it has to come across a series of problems such as jurisdictional, administrative, managerial, technical and financial. Ironically, the local body in this regard does not possess the necessary capability for fulfilling its responsibilities. Therefore, to make up for all these lacunae, supplemental organisations came into existence (urban development authorities, urban improvement Trusts, water and sewerage Boards etc.)

It is clear from the above part that for any kind of urban development various types of parallel organisa-

tions are functioning, i.e. Local Bodies Development Authorities, Improvement Trusts etc. But in Indian context too many organisations in an urban area create mismanagement rather than solving the urban problems in an efficient managerial way. In this regard Calcutta Metropolis is one example.

Administrative and managerial ability

It is beyond the means of every local body to afford a level of managerial set up that could tackle all its problems in an efficient way. Nevertheless it is necessary that a local body must have the resource to such managerial capabilities, otherwise the development management will be inadequate and may lead to urban chaos. Most of the municipalities are not equipped with power as well as resources to solve the entire problem resulting in disorder.

Technological capabilities

It is apparent that the level in which advanced technology ought to be applied in order to ensure equity as well as efficiency, is not existent in India. As for example, urban public services such as water supply, sewerage etc. are obligatory function of any local body. But most local bodies do not possess the proper technical know-how to sustain the present and future developmental activity. Therefore, to capture the present situation and future demand, the technological resources are progressively organised from the higher level. Either from the State to the Local Body or from the particular agencies on payment for the services rendered These supplementary technological aid may include not only the problem identification but also the design, execution, maintenance and management As for instance, Calcutta Metropolitan Development Authority is the key agency for Municipal Corporations and Municipalities to solve the above problems.

Finanical capability

The issue of raising financial resources which is decided by the Local Body, are obviously on the users' hand in any democratic and political environment. There is no doubt that the centre and the state have fundamental interest in upgrading the welfare of the individual and the community But this interest never boosted to shape the problem in the form of building up the capability of the Local Boday to raise resources and to meet its obligations fully. It has been observed that most of the Local Bodies are under debt crisis because the financial management part is very weak, The existing taxes and revenue structure is very low which never satisfies the current demand. Above all, the mechanism of budgeting and accounting is too old. Therefore, the hardcore management mechanism has to be built into the Local Body. In this regard, Gujarat and Maharashtra are successful examples to some extent.

Overall management process needs higher managerial capability, strong organisational structure as well as intra and inter linkages and also the people's participation. In the context of organisational linkages an example can be cited. In Calcutta for delivery of urban public services a number of organisations are involved. Their functional domain and organisational linkages in administrative terms are not clearly defined, so there is always conflict in terms of function and domain confirmation.

Framework

Given the vast array of needs in the metropolitan areas the question arises: What should be the appropriate framework for urban management ? Various approaches indicate that in many urban areas, the development and management tasks are partly performed by other agencies (urban development authorities etc.) But it has been found that it is difficult to determine their appropriate role aimed at variety of existing sectoral and different agencies and more importantly the existing decision making process Therefore, the urban management process may not be restricted into the managerial, technical and financial capabilities of any Local Body. The problem has been deeply rooted.

Keeping in mind the above part, one can say that the urban management has certain character, and style in which it operates, which may be noted in the following points.

(i) There is always a need to determine the development goals, priorities and policies in the urban areas. At the city level, while goal setting process will be mainly techno-administrative, it must have a support of political authority and leadership and is also sensitive to public opinion Further, in addition to identify problems and tasks to form the substance of policies, and to set an acceptable priorities, some realistic overall analysis of 'needs' by sectors together with an assessment of their relative importance and resource implications are required

(ii) The agencies set up to strengthen and supplement the efforts of the Local Body should be made to play truly that role.

(iii) While a supplemental agency will provide technological and managerial support and the assistance financed by the State or central Government, there should be a clear understanding that the Local Bodies should fully pay for these services in terms of both capital improvements as well as for maintenance. Such payments should be direct transfers and not in terms of state subsidies.

(v) The decision-making in regard to the equity and efficiency of the services that would be made available to the users groups should have the ability to pay fully for the services.

Evaluation Methodology on Low Cost Sanitation Programme

M.M. Datta

The low cost sanitation programme for small and medium towns and rural areas in the country has been given high priority. Its integral part should be evaluation of the programme. According to the author. this programme, if evaluated and monitored continuously will ensure better health for people in rural areas.

THE LOW-COST SANITATION PROGRAMME both for small and medium towns, fringe areas of the cities and rural areas in the country, has been given high priority in the sanitation sector in India. To ensure appropriate and continuous management control of the programme there is an urgent need for continuous evaluation and monitoring of the programme.

Evaluation is a systematic way of learning from experience and using the lessons learned to improve current activities for future action. This involves a critical analysis of different aspects of the development and implementation of a programme and the activities that constitute the programme, its relevance, its formulation, its efficiency and effectiveness, its costs and its acceptance by all parties involved.

The process of evaluation and monitoring consists of interlinked sequence of events, including policy formulation, programme formulation and budgeting, programme delivery and reprogramming as necessary, with information support throughout. The responsibility for evaluation and monitoring devolves on the individuals and groups who are responsible for the development and application of the managerial process for low-cost sanitation project in the country. Specific indicators and criteria are to be evolved for evaluation and monitoring of the programme. Evaluation has to be supported by valid, relevant and sensitive information. The evaluation process is intended for use in a flexible manner and must be adopted to the circumstances in which it is to be used. It consists of following broad components.

Specify particular subject for evaluation i.e. low-cost sanitation; Ensure information support; Verify relevance; Assess adequacy; Review progress Assess efficiency, effectiveness and impact. Draw conclusions and formulate proposals for future action.

In the low-cost sanitation project, individual and community latrines are constructed according to the need and at present 8 agencies are involved directly or indirectly in the implementation of low cost saniation programme and rehabiliation of scavengers in the country:

(i) Ministry of Urban Development is in charge of integrated development of small and medium towns (IDSMT) scheme. (ii) HUDCO (Housing and Urban Development Corporation) for basic sanitation scheme. (iii) Central Ganga Authority for Ganga Action Plan (iv) Department of Rural Development is incharge of Indira Awas Yojana, National Rural Employment Programme (NREP), Rural Employment Guarantee Programme (RLEGP), now integrated with Jawahar Rozgar Yojana) Centrally Sponsored Rural Sanitation Programe (CRSP). (v) CAPART through Non-Governmental/Voluntary Agencies for Low

Cost Sanitation projects in rural areas. (vi) Ministry of Welfare in charge of rehabilitation of scavengers. (vii) World Bank/UNICEF assisted schemes under the control of Ministry of Urban Development, and Department of Rural Development, Govt. of India. (viii) Sanitation Programme of State Governments under State Plans.

The following weaklinks are observed in the implementation of low cost sanitation programme in the country:

Technical aspects

(i) Latrine is considered sanitation. It is not so. Integrated approach in sanitation is urgently needed. (ii) The non-availability of correct solution of sanitation problems in rural, ru-urban and urban areas. (iii) Non-availbility of correct type of pan and trap at field level, which will keep the latrine clean and will be easy for urination. (iv) Optimum number of persons per seat to avoid overcrowding and make full use of latrine. (v) Design of latrine pit (various geometrical shape, size and capcity etc.) depending upon field conditions and availability of space. (vi) Number of pits suitable for effective use and maintenance. (vii) Guidance regarding removal of pit contents and organisational infrastructure for removal of pit contents. (viii) Manurial value, pathogenic and viral contents of pit latrine. (ix) Relationship between ground water quality and on-site sanitation. (x) Location of latrine particularly in rural houses. The choice of location is left to the decision of the head of family without giving any weightage to the convenience of the women members of the family. (xi) Social habits, traditions and taboos. (xii) Linkages with Health and disease i.e. lack of education. (viii) Women have little voice in decision making process of low cost sanitation programme. (xiv) Lack of distinct individual beneficiary oriented approach (xv) Specific guidelines regarding superstructure of low cost latrines in different geographical and climato-logical areas. (xvi) Viability of community latrines in rural areas. (xvii) Latrine size which is suitable for children.

Socio-cultural aspects

(i) Lack of felt need particularly in rural areas. (ii) Lack of availability of space particularly in urban areas. (iii) Lack of availability of water. (iv) Affordability of individual in sharing of cost (v) Sense of involvement and urgency at all levels.

Institutional and administrative aspects

(i) Long drawn and cumbersome administrative procedure causing avoidable delay. (ii) Lack of physical infrastructue and organisational set up at different levels. (iii) Non involvement of Panchayats in rural areas and local bodies in urban areas. (iv) Lack of co-ordination and absence of fixed responsibility. (v) No linkage with drinking water supply schemes both in rural and urban sectors. (vi) Absence of field oriented software. (vii) 'Poor' staff turn over (particularly technical staff). (viii) Inadequate inservice training programme (both in contents and duration) of all categories of field staff. (ix) Lack of constant touch with village/community leaders and beneficiaries by the implementing agencies. (x) Lack of efforts to discover and utilise local talent in promoting low cost sanitation programme in rural, ru-urban and urban areas. (xi) Lack of appropriate follow up i.e. after sale service.

(xii) Involvement of appropriate NGOs, Voluntary organisations are very limited.

Financial aspects

(i) Budget allotments for low cost sanitation programme are provided through various agencies (ii) There is no arrangement at present to pool all budget resources on this account through one agency and fund low cost sanitation programme in the country. (iii) Allotted budget funds are not available to implementing agencies in time. Diversion of budget funds under low cost sanitation programme to other schemes. (v) Absence of specific "Head of Account" for low cost santiation programme. (vi) The present budget on low cost sanitation programme in the country is limited. (vii) Absence of any specific policy for loan/subsidy/grant-in-aid for sanitation programme for rural, ru-urban and urban areas in the country.

Individual latrines:

In so far as individual latrines are concerned the following problems appear to affect the rate of conversion of dry latrines and construction of new latrines:—

(i) **Financial Constraints: lack of funds:** Although certain States have made funds available to municipalities for project implementation, and have taken steps to ensure additional financing from non-State resources namely, HUDCO, LIC, many others have not Thus, municipalities many of which are operating under strict budgetary constraints are often unable to generate the resources necessary to mount project activity in complete accordance with the approved guidelines. As a result, given limited financing for individual families, low or non-existant allocation of funds for promotion, publicity

and administration, few household have been able to benefit from the same. But in rural area it is not the lack of money that is the major constraint.

(ii) **Operational Problems:** Municipalities/local bodies which have received State funds (or Government of India (GOI) funds from the "scavenger-free" programme) have encountered certain operational problems which have slowed both dry-latrines, conversion and new latrine construction:

(a) **Unit Cost:** The estimated local cost of latrines and/or the price to install them may be frequently underestimated, thus leading to: (i) a lack of interest on the part of implementing agencies (ii) slow rates of installation on the part of small contractors who, although content with lower rates of return, are reluctant to give up other contracts and devote full time to latrine construction.

(b) **Promotion/Publicity:** Informational efforts required to present the basic elements of the scheme-technical, financial, and practical-have been lacking on the part of: (i) municipalities which have not allocated more than minimal resources to this activity; (ii) contractors who, feeling limited by the above mentioned rates of return and often inadequately and insufficiently trained in the social and economic aspects of the scheme, have done little promotion on their own initiative.

(c) **Lack of local-level planning and management:** Few people have been hired or designated to oversee the implementation of the scheme, little comprehensive planning, targetting management and administrative supervision have been done.

(iii) Socio-economic constraints

(d) **Cost:** Although earlier evaluation studies have indicated a willingness on the part of these persons interviewed to spend one or two per cent of monthly income on debt servicing of latrine loans, no data are available concerning actual performance that is, whether all income groups are equally able and willing to spend that amount, given equal levels of knowledge and understanding and favourable attitudes towards pour-flush (PF) latrines.

(e) **Socio-cultural variables:** Although individual families might have the financial resources to install a PF latrine, they might not be disposed to do so given traditional beliefs and practices about open-air defecation and easy access to such open spaces and resistances, concerning the location of leaching pits within house-holds premises.

Evaluation

An evaluation designed to determine the nature and extent of operational problems and socio-economic constraints affecting Panchayats/local bodies/municipalities which have secured funding will provide information useful for both the current programme and its likely extension into other villages and towns in the same state and also to other states.

The Evaluation will comprise the following components:

(a) Financial/Administrative Survey, designed to focus primarily on the question of unit cost and its relation to contractor performances; and secondarily on the question of project management and administration and the use of funds designated for this management and administration

Financial/Administrative Survey should include the following components:

(i) Unit cost (ii) Contracting (iii) To assess panchayat/municipal project performance (iv) Information on actual numbers of individual latrines built per month or during a specific period. (v) Allocation of engineering cost i.e the amount of funds available for engineering cost for a specific year, whether this amount reflects the approximately say, 9% of total construction cost as estimated, what these funds have been used for and whether they have been spent judiciously i.e. according to a predetermined and planned budget. (vi) Information on the number of applications received relative to latrine construction (vii) Additional information covering panchayat/municipal personnel attached to the project, their responsibility and actual performance. (viii) Promotion and publicity.

(b) Socio-Economic (household) Survey, executed at panchayat/municipal level through household surveys, to determine: (a) the ability of individual families to pay for PF latrines; (b) the extent to which families without PF latrines know about and understand the scheme; (c) the particular hesitation and resistance of families to adoption of the scheme; (d) the way in which existing PF (e) user assessment of design, construction and performance of the latrines.

In order for a family to agree to install a PF latrine, it must:

a) know about PF latrines and about the panchayat/municipal programmes avavilable to provide financial and technical assistance; (b) be convinced that the PF system is a better one than the sanitation used at present and (c) feel that the cost of installation of a PF system is within the family's existing budget limits.

The socio-economic survey, therefore is designed to determine whether:

(a) the panchayat/municipal promotion/publicity/information programmes have been effective in their attempts to inform and educate village/town residents about PF latrines; (b) prevailing attitudes towards traditional defecation methods are changing most socio-economic segments of the population. (c) latrine costs are reasonable enough to assure wide-spread adoption among most socio-economic segments of the population.

The socio-economic survey is also designed to determine, among families who have adopted PF latrines whether of not:

(a) the units are being used and are functioning properly;
(b) their utilization rate is high.

Methodology

To accomplish these objectives, the survey is broken into three parts:

(a) survey of PF users: (b) survey of users of dry-latrines; (c) survey of households with no sanitary facilities.

All three groups will be further broken into three income categories. Results to all questions will be analysed according to these two major groupings.

With this methodology answers to the following types of questions will be provided:

(i) Can only higher socio-economic groups of the population afford PF latrines ? (ii) How important are the socio-eocnomic variables not subject to change through project interventions (i.e education, caste, family size) in the adoption process ? (iii) Can household with no sanitary facilities — usually the poorest families of the community—afford the construction of a new PF latrine-more expensive than a conversion ? (c) Technical Survey, designed to assess the quality of construction of individual units and the degree to which they meet design specifications.

The technical survey of PF latrine installations should provide information-concerning, among others:

(i) the degree to which they have been built according to specifications, given soil conditions, depth of water table, space considerations concerning location of leaching pits, and location of pits relative to household premises (inside, outside);
(ii) the degree to which design has been appropriate for actual use and utilization;
(iii) the quality of materials used in construction;
(iv) the quality of the workmanship involved in construction.

Such information, related to information obtained in both the Financial/Administrative and Household Surveys, should permit correlations between:

(i) unit cost and construction peformance; (ii) panchayat/municipal information efforts, actual latrine use, and proper functioning of unit.

The technical survey, then must have the following components:

(i) an inspection of above-ground latrine work, such as installation of pan, functioning of water seal (smell, choking, etc.); (ii) an inspection of leaching pits, either under construction or opened for inspection; inspection of switching boxes; (iii) an inspection of centrally-produced materials, particularly pit covers; (iv) a review of all hydrological data pertaining to water tables, and a correlation of those data with individual pit construction data (diameter of pit; depth of pit etc.) (v) surface measurement of: (i) distance of one pit from the other; (ii) distance of pits from latrine under varying conditions (inside premises, outside premises).

Particular attention should be paid to:

(i) Water table levels; (ii) spacing of honeycombing, relative to soil type; (iii) separation of pits (distance between pits) (iv) interior cement work (first four layers of pit); (v) quality of construction of concrete covers (with emphasis on composition of materials and placement and positioning of reinforcing reds); (vi) sludge accumulation rate. (d) Community Latrine Survey, which will study the followings: (i) design and construction; functioning; (ii) maintenance (iii) operations (lighting, water, security, etc.); (iv) cost and administration (unit costs, service and maintenance contracts, operating costs, etc.); (v) utilization (type of user, time of use, number of users, etc.)

An evaluation of community latrines (CLS) should have the following components:

(A) Financial Administrative Survey-designed to determine:

(i) whether or not funds have been allocated for CLS; (ii) at what rate they have been built (if at all); (iii) the unit cost for CLS; (iv) the price paid to contractors; (v) the type of maintenance contract in effect (if any) (vi) user fees (if any).

(B) Technical Survey-designed to determine
(i) quality of construction and conformity to design; (ii) adequacy of functioning; (iii) adequacy of ancillary facilities such as: lighting, water, maintenance, upkeep, security, etc.; (iv) appropriate location (as regards convenience, security).

(C) Observation Survey—designed to determine: (i) type of user (sex, age); (ii) number of users; (iii) time of use.

The above surveys will give sufficient information evaluate the CL programme. Although exit surveys are possible to collect information on the opinions of individual users' concerning the facility, they are not highly reliable and will produce little in the way of useful information. This contention is based largely on expereince with CLS in other projects which has indicated that if latrines (a) are well lighted, have adequate water, and are well maintained; (b) are conveniently lcoated; and (c) are nominally priced for transient users and free for residents they will be used All of these factors can be determined from the proposed three surveys alone.

Other factors which have been mentioned and can be studied via the above surveys are:

(i) separate stalls for men and women;
(ii) partitions between stalls (half-partitions may be preferable to faciliate conversion among community residents).

The first three components— all dealing with individual latrine conversion and construction—are interrelated. The Household Survey, for example, will provide data on the degree of awareness and understanding of PF latrines, and the source or sources that provide information important for that increase in awareness and/or understanding. As a result, these data should indicate both the quality and the extent of panchayat/municipal promotion and publicity efforts Secondly, Household Survey data on the functioning of individual latrines can be associated with Technical Survey data in order to permit a clearer understanding of the relationship between unit design, quality of construction, correct use, and type and extent of utilization.

Thirdly, data from the Financial/Administrative Survey may be relevant for an understanding of construction defects identified in the Technical Survey: low unit costs may contribute to unauthorised cost-cutting by implementors, resulting in structural defects.

The Evaluation will be further characterized by the following:

(a) Only Panchayats/local bodies/municipalities/NGOs/voluntary organisations with State, GOI, or other institutional funding will be studied— i.e., those who are able in principle to execute the Project according to approved guidelines (concerning, for example, promotion and publicity, technical supervision, project, planning and targeting, and management and administration).

(b) Only those agencies having implemented project activities at least six months at the time of Evaluation will be studied. This time criterion will ensure that the Evaluation is measuring truly inherent Project problems, and not simply those start-up problems which affect even the best of programmes.

The selection of these criteria can be justified as follows:

(a) Approved project guidelines apply to all states— that is, the suggested technical design, operational procedures, and financing plan (i.e., recommended consumer cost limits) were designed to be applicable throughout India.

(b) Those states and implementing agencies with adequate financing should have been able to execute the project according to approved guidelines and can be evaluated on the basis of performance relative to them.

(c) The approved guidelines are not expected to change dramatically-that is, any panchayat/municipality provided with adequate funds (either its own, from the State, or from the GOI) will be expected to perform according to approved guidelines.

(d) An analysis of those villages/towns which have had adequate funding, and have been in operation for at least six months (enough time to have been able to work out any start-up difficulties) should be a fair test of the approved guidelines and the ability of implementing agencies to implement them.

In the National Conference on Low-Cost Sanitation held in New Delhi on 19 May 1984 it has been recommended,

"That an evaluation be done for existing urban low cost sanitation programme consisting of 3 elements: Management/Administrative Analysis; Socio-economic cultural analysis; and technical analysis. That monitoring cells should be established in each State Govt. and at Centre not only to monitor the number of latrines built, but the specific problems that may be impeding progress."

Monitoring and Evaluation of a Low Cost Sanitation Project should be an integral part of the programme and would cover physical progress of the outputs and evaluation of the impact of health and behavioural changes towards better sanitary practices. The impact on mortality rates among children, which is a good indicator of sanitary conditions, appears to be most appropriate parameter. For a medium term evaluation of health impact, data base comprising such variables as water and sanitation status and other relevant inputs can be collected prior to health status. On a short-term perspective, the more relevant parameters are the assessment of the physical outputs and of improved hygienic practices since it is well established that the elimination of filth inevitably leads to better health. □ □ □

Significance of Brady Plan

Purnima M. Gupta

One of the measures proposed by the developed nations to solve the problem of external debt of developing countries is Brady Plan. The distinguishing feature of this plan is that for the first time it emphasises reduction in debt and debt service rather than new lending. Several measures enumerated under Brady Plan appear laudable. But one has to wait for the actual implementation of the Plan to see its worthiness for debt-ridden developing countries, says the author.

THAT THE DEVELOPING COUNTRIES ARE faced with an increasing problem of external debt is accepted by most experts studying the world-wide debt problem. The debt problem of the developing countries also has some not too favourable implications for the developed world. Besides, the International Financial Institutions (IFIs) which are associated with the external debt may also face some problems in retrieving the funds advanced to the debt ridden countries. Several measures have been proposed and implemented by the developed countries through the international financial institutions to ameliorate the external debt burden of the developing countries. One such measure which is one of the latest of its kind to deal with the problem is the Brady Plan. It would be seen that while the Brady Plan is a departure from the earlier measures in some respects, it is essentially built upon the same basic principles which have guided the World bank and IMF policies vis-a-vis developing countries.

Aid mechanisms

Transfer of resources between various countries/institutions may take place either in the form of grants or loans or direct investments. Whereas grants are not accompanied by any outflow of resources from the receiving countries, loans have an element or repayment. Loans may further be of concessionary or non-concessionary kind. Concessionary loans would have some element of non-repayment obligations According to World Bank definition, loans with an original grant element of 25 per cent or more are termed concessional. Grants and concessionary loans may be regarded as aid. This form of transfer of resources mainly takes place from the developed countries-or International Financial Institutions to the developing countries. It is the non-concessionary loans which impose a real burden of debt on the developing countries.

Aid giving agencies

One of the most important instituations in the world associated with aid flows is the World Bank. In fact, World Bank consists of three institutions, namely, International Bank for Reconstruction and Development (IBRD), International Development Association (IDA) and International Finance Corporation (IFC). The basic institution is the IBRD as this undertakes most of the activities. IDA is the soft lending institution and IFC undertakes financing for the private enterprise.

Aid may flow through bilateral transactions or multilateral ones. In the latter case, a part of the aid which the donor wishes to give flows into the World Bank funds. Flow of funds from developed countries international organisations to the developing countries are dictated by several considerations.

Some of the important factors affecting these aid funds are:

- Credit rating of countries with the IMF and the World Bank influence the flow of funds from international commercial banks.
- Bilateral aid may flow to those countries which are more receptive to private foreign investment from the donors.
- Aid flows are also goverened by ideological, political and strategic considerations of any country.
- The avilability of funds with the donor would be an important consideration in deciding about the quantum of aid. This would, in turn, partly depend upon the level of economic progress of the donor.
- The donor countries have formed several groups. For example, Development Assistance Committee (DAC) consists of donors of the Western Capitalist world. They account for a major share of the total aid in the world. Another group consists of the countries from the communist world and is called CEMEA group of countries. Their aid flows mainly to the communist developing countries. Third group consists of the OPEC countries. Then, there is a fourth group of non-OPEC developing countries which also provide aid, though on a relatively small scale. For instance, China extends assistance to Africa, as also India gives aid to Bhutan, Nepal etc.

External debt problem of developing countries

Notwithstanding the aid flows from several quarters to the needy developing countries, their external debts continue to increase with the magnitude of the debts assuming serious proportions for some of them. The origin of the present international debt problem may be traced to 1982. The countries that were faced with serious problems of debt-servicing burdens in 1982 are the ones which continue to face the same problem today. The growth in debt of developing countries was at twenty per cent per annum during the period 1970 to 1980. By the end of the decade the international banks were considerably more involved with international lending as compared to the beginning of the decade. In fact, by 1980 only twenty five per cent of the debt owed by Latin American countries was at fixed interest rates and as much as forty per cent had to be repaid within the year and about seventy per cent had to be repaid within three years. This points to the hard conditions attached to be repayment of the external debt for this group of countries. In fact, a situation arose in which the indebted country had to raise new loans just to service the old. In fact, it become more difficult to raise loans after 1980 when bankers and other creditors were a little cautious in lending to those debtor countries which had already large accumulated debts in the 1970s. Besides, the second oil shock brought forth an increase in interest rates in the developed countries on account of the restrictive monetary policy adopted so as to keep to the minimum the inflationary impact of oil price rise. This made the conditions for raising loans even harder.

Many attempts have been made by the developed world through the policies of the World Bank and by other means to provide relief to the indebted countries. The efforts made towards debt relief need to ensure that the external debt burdens become sustainable allowing the indebted countries to deal with their deep rooted problems without becoming preoccupied with the debt burden. It is only in this sense that efforts towards debt relief bear any meaning for the developing conntries. The actnal flow of resonrces between the developed and the developing world do not convey the picture that debt relief in a real sense has taken place. It is observed that the financial flows to the developing countries have been quite low. According to World Bank estimates, during the five year period 1978 to 1982 the net transfer of resources to developing countries through long term lending was $ 140 billion. The net outflow of resources was around $ 85 billion. In fact, for the highly indebted countries (HICs) consisting of 17 heavily indebted countries, there was net inflow of $ 65 billion in 1978 to 1982 and a net outflow of $ 100 billion in 1983 to 1987. This points to the adverse outflow of resources from the already fund deficient countries over the period 1983 to 1987.

The quantum of financial assistance is only one of the aspects of the transfer of funds from the developed countries to the developing countries. The more important aspect is the conditions which go with these transfer of funds. The IMF and World Bank have drawn up some broad principles for extending loans to the developing countries Briefly, they are:

(a) A high growth rate should be encouraged.
(b) Certain reforms should be carried out in the debtor country.
(c) These reforms would need to be spelt out for each country differently depending upon its peculiar conditions
(d) Following from above, each country would be dealt with separately to deal with the debt problem.
(e) External financial support would be extended to ameliorate the debt problem.

Several measures proposed by IMF/World Bank over the past few years have emanated from these basic principles. The efforts towards debt relief may be divided into those that favour solutions through an increase in debt and those which favour solutions that wold reduce it. Since September 1985, the efforts of the developed world to ameliorate the debt problem have followed along the suggestion of James A. Baker III (US Secretary of Treasury). The aim of the Baker Plan was to bring about growth through economic adjustment which was to be financed by new credits from commercial banks and increased lending from the World bank. However, the extent

of lending required did not come forth. Thus, the basic problem of external debt of the HICs remained. Recently, this question of the debt problem has received a fresh treatment in the developed world. The measures now being proposed follow from the suggestions of Nicholas Brady (US Treasury Secretary).

Brady Plan

The late 80's are witnessing a renewed emphasis on reducing external debt problem of developing countries. The latest efforts being made by the World Bank and IMF have been couched under the term Brady Plan. The distinguishing feature of this Plan is that for the first time it emphasises reduction in debt and debt service rather than new lending. Under this Plan the IMF and the world Bank would jointly contribute about $ 425 billion for debt and debt service reduction over three years. Japan would contribute further to this Plan to the extent of $ 4.5 billion in new loans over a three year period through its Export-Import Bank.

The Plan in its entriety is not available as several details have still to be worked out. Broadly speaking it is envisaged that a part of the loan taken by the debtor country from IMF is set aside to finance debt reduction programmes. However, this facility is available only to those countries which agree to certain economic reforms are suggested by IMF. It is this aspect of conditionality which casts doubts on the welfare implications of this plan for the developing countries. What may be considered a sound economic reform from the point of view of the IMF may not prove to be always so for the developing countries. Even if it is granted that the IMF experts study the economic system of any developing country with the best of inentions, it cannot be ensured that the reforms suggested by it would prove to be in the long termk economic interest of the country. One important reason for this is, perhaps, that several considerations, external to the developing country for whom reforms are suggested, also form a part of the process of reform making by the IMF. That is, the interest of the developed world cannot be totally ignored while IMF formulates its policies. Incidentally, heavy debt burdens of the developing countries create a problem for the developed countries to the extent that they face difficulties in exporting their surplus. Easing the debt burden of this group of indebted countries would make them more receptive to import the products of the developed countries.

As the Brady Plan appears to be chartering a new course in the sphere of third world debt management, it is worthwhile to go into its important aspects. These are listed below :

(a) It is evisaged under this Plan that IMF would make loans to debtor nations and loan funds would be kept as security with the IMF. The debtor nations would issue new bonds against these funds. Then its bonds would be exchanged at par with old loans in the commercial banks accounts. Thus IMF and the World Bank are to act as intermediaries between commercial banks and debtor countries.

(b) The World Bank and IMF would encourage the commercial banks to reduce the debt owed by the developing countries by backing them with the funds kept aside from the loans sanctioned by IMF.

(c) A portion of the funds kept apart by the IMF could also be used to replenish the foreign exchange reserves of the country when those reserves are used to buy back the debt from commercial banks at a discount.

(d) There is also a proposal that the World Bank or IMF would provide guarantees on the interest that a debtor country owed on its new debt reduction obligation. This guarantee would be made available on a rolling basis for a limited period of time. So as to preserve the financial integrity of the IMF and World Bank it has been suggested by Brady that both IMF and World Bank should make avilable limited interest support for transactions involving significant debt or debt service reduction.

(e) A suitable change in the policies of key international financial institutions is advocated so that they encourage reduction in debt and debt service For instance, the legal constraints on existing commercial bank loan agreement should be made less binding. Besides, the commercial banks should compliment new lending with stronger emphasis on debt and debt service reduction. It would be in the long term interest of the commercial banks to pursue a policy of debt reduction as otherwise they may be advancing funds to countries which are not able to meet even the debt service obligation.

(f) The debt/equity swap programmes by debtor countries should be structured such that they create opportunities for return of flight capital by encouraging participation of their own citizens.

(g) An important fact mentioned by Secretary Brady is that assets estimated to be held abroad by nationals of a number of countries might equal or exceed their external commercial bank debt. These funds constitute a potential source of private capital for debtor country.

(h) The Brady Plan also envisages that the financial support of the Fund to those countries which are not heavily indebted would not be reduced.

After the announcement of Brady Plan, the World Institute For Development Economics Research

(WIDER) constituted a study group to look into the world debt problem. This group has come to the conclusion that debt reduction to the extent of $ 125 billion must form an essential part of any debt reduction-programme. The contributions towards this amount should be made by the capital surplus nations like Japan and West Germany and collected in an IMF Trust Fund.

It is suggested by this group that access to the proposed Trust Fund should not involve additional macro economics conditions apart from those imposed on regular tranche borrowings.

Of the total commercial bank debt of the HICs of above $ 370 billion, $ 250 billion is non-guaranteed. According to the WIDER group, this non-guaranteed debt should be reduced by about 50 per cent. One way of doing this, according to this group, is for the borrowing country to buy back the debt.

Conclusion

Several measures enumerated above which form a part of the debt reduction strategy under the Brady Plan appear quite laudable in themselves It is not as if these measures would mean an additional financial burden on the IMF or World Bank as most of the measures of debt reduction would be drawing upon the reserves which are kept apart from the debtor country's own loans. Nevertheless, there would be serious efforts made by the World Bank and IMF to emphasise up the International Financial Institutions (including commercial banks) to reorient their policies towards debt reduction of the heavily indebted countries. It is not only the interest of the heavily indebted countries which the IMF/World Bank have in mind while propounding the Brady Plan but also the long term interest of the developed world which sees potential markets for their exports in the developing countries. Quite clearly, the most significant and positive feature of the Brady Plan from the point of view of the developing countries is its emphasis on debt reduction. In principle, this augurs well for the developing countries. But, in practice, several issues would need to be sorted out before the Brady Plan really works towards reducing the debt problems of the developing countries and thereby improving their real rate of economic growth These relate to the following:

- It seems that the Brady Plan may be restricted to only the Latin American countries. Countries like India and many African countries are also facing severe external debt burdens. In fact, India ranks as fifth highest in terms of the external debt. Unless these countries are also covered, the Brady Plan would be only a piecemeal effort towards world-wide debt-reduction. In fact, the Bank for International Settlements (BIS) in its latest annual report has suggested that another distinct plan. Brady II-needs to be formulated for the not-so-highly indebted countries.
- The reforms which would be suggested for the borrower countries by the IMF/World Bank would play an important role in deciding the implications of the debt reduction package. There are several instances of countries which had severe problems of instability on account of these reforms. The recent example is of Venezuala.
- The finer details of the Brady Plan are still to be worked out. It is only when they are available that one can say how they would affect the developing countries.

Reducing the debt burden alone would ease the problems of the highly indebted countries only if the magnitude of debt reduction is sufficiently large. The resource outlow from the highly indebted countries was estimated to be more than $ 30 billion in 1988.

In conclusion it may be said that Brady Plan does appear to show light in the dark contours of external debt problem of the developing countries One would have to wait for the actual implementation of the Brady Plan to see its worthiness for the debt-ridden developing countries. Meanwhile, this plan has been receiving wide support from the major industrial countries. □ □ □

(Contd. from page 9)

construction activity through new housing finance agencies However, mere creation of institutions within the prevailing legal and financial framework will not do Something radical has to be implemented to give a big boost to construction activity □ □ □

Workshops in Agriculture

The agricultural extension service has been reorganised in 17 States on the pattern of training and visit (T&V) system of extension. The States are Andhra Pradesh, Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal.

The T&V system provides for interaction of researchers and extension workers, systematic training of field extension workers and their scheduled visits to farmers to deliver the latest technology. Demonstrations and skill teaching/training are also employed to educate the farmers.

Training workshops in agriculture and horticulture are being organised by the Union Agriculture ministry in collaboration with State Agricultural Universities and research institutions in which middle level extension functionaries are being trained. ■■■

National climate for technological change

P.D. Vashist

Any developing country faces the problem of innovation, which may come either through the government or private. It must be the duty of the government to provide a suitable climate for innovation. Apart from providing necessary basic facilities, the government has to liberalize its controls and licensing policies thus ending the confrontation between the government and industry. This will help for a congenial climate leading to technological development and economic growth, says the author.

A DEVELOPING COUNTRY LIKE INDIA IS bound to face 'problems of innovation'. Innovation may come through private enterprise or through government or corporate efforts. In creating a "national climate" for innovation, the government or the public sector bears the principal but not the only responsibility as the private industry too has a very major role. It certainly is the duty of the national and state governments to provide a suitable climate for innovation as the government has to provide infrastructural facilities like electrictiy, roads, communication, transportation, water and other inputs which promote the causes of science and technology leading to innovations. The government has also to provide loans subsidies, tax reliefs, land and other facilities at affordable costs to the entrepreneurs and innovators. The government has also got to liberalise its controls and licensing policies as should boost morale of the industry to take recourse to new dimensions in science and technology.

Science, technology and innovations generally reach out to the people via the route of industry especially through the items of day-to-day use e.g. electronics, gadgets, medicines, textiles, mechanical vehicles, processed food, detergents and construction material etc. The government may have to retain to itself certain technological areas in the public sector for which:—

(a) There are no takers as these may initially entail lot of R&D effort.

(b) The items to be produced may involve heavy investment and the goods produced too may be bulkily capital intensive e.g. rail engines, thermal turbines, heavy machines and nuclear reactors etc.

(c) The items may be of strategic and sensitive importance e g. defence hardware, steel plants, aeroplanes and space missions etc.

(b) Certain industries may involve multi national collaborations and foreign exchange and such like conditions which may be beyond the reach of the private industry.

The above list is only exhaustive and in no way complete.

When we come to industries in the private sector the picture clouds. It is also difficult if not impossible to identify the 'leaders of the industry'. It may be possible to identify 'spokesmen' of automobiles, textiles and the like. There are also Chambers of Commerce, Federation of Exports and other Business Associations acting as the representatives and spokesmen of the industries which may pursue their own views, not necessarily those of the 'Industry' as a whole. Then what happens to thousands of small, cottage and informal industries whose interests may remain occult, hidden and esoteric. Moreover such views are general in nature and cannot act as 'the change agent'. Even if certain 'leaders' of the industries were identified to be promoted, this in fact, may not necessarily mean that right leaders and right industries have been identified. In a country like India, most of the industries e.g. steel, textiles, machine-tools, food processing and petroleum are in a process of metamorphosis. The very nature and meaning of 'technological change' may involve the industries to merge, separate or take new forms. Reforms in the industry have to come on varied fronts e.g. if a change is to be contemplated in the textile

industry, simultaneously these must follow in the paper and machine tool industry. Similarly R&D activities have to be taken up by R&D based corporations both in the government and private sectors. Pressure for diversification may also help technological change. R&D initially involves heavy investment and also uncertainty of success. As a consequence not many private compaines will go in for R&D programmes. The planners in India will have to address themselves for governments greater R&D participation with the private coporations so as to facilitate development and technological change. Even if the government thinks of R&D participation and other incentives, it is still very difficult to say whether a right "agent for change" has been identified or not. The industries chosen as the 'leaders' may not be the right one. There may not be a single institution or set of instinutions to turn to although there is a whole gamut of complex institutions to turn to at different levels e.g. corporations, compaines, industry associations at varying levels, universities, research institutes and government organisations. At each step and level in each relationship, change in the direction of innovation is possible for example.

- Companies within an indubtry may join forces for the good of the industry.
- One industry may invade another with innovation as a consequence.
- Centre stage for innovation may be be created when the industries of a region or particular line, public sector units, research institutes and state government may enter into collaborative research for technological change.

The relationship between the government and industry is very deep which may spur up or hamper technological change. The relationship between the government and industry differ from country to country. The industry and management gurus may like to define the government's role in three ways:—

(i) It can be in the nature of government speaking and acting as though it had a position of responsibility and leadership in the introduction of technology in industry in Industrial research and development the government may have joint collaboration with the industry. This kind of climate may be seen in Britain, West Germay, Japan, South Korea and other developed countries. India and some of the progressive third countries too may be reluctantly included in this list where the government approach is highly paternalistic, full of avovidable controls, regulations and interventions. Each of these nations has a vehicle, like Britain's Department of Scientific and Industrial Research (or its Ministry of Technology), or the Deptt, of Science and Technology in India. Besides the Department of Science and Technology, some of the Indian Ministries have their own Science and Technology Missions promoting the causes of innovations and technological change. In India as substantial part of technical innovation in the civilian economy needs to be Government financed and encouraged Government's leadership in R&D usually goes alongwith a leading role in export-import matters, the provisions of risk capital, industrial standards, codes and other issues essential to technical innovations. The situation of the building industry in France is a useful example; here, Government provides financial support for a substantial fraction of the technical development, codes and standards develop through Government institutions; the Government provides a vehicle, (the so-called Agreement System)for testing and certifying innovations, and Government itself undertakes most of the new building, Government, in short, is a leading participant in the game of technical innovation.

(ii) The second type of government's role in providing incentives in the field of science and technology could be that of playing the role of an umpire and groundskeeper, while private industry plays the game in a *laissez-faire* climate. This in fact is the best role for a government, only example of this role could be the United States.

(iii) The third type of role which the Governments of Russia and some of the Eastern Bloc countries perform is that of being highly controlled and centralized. In these countries the Government not only tries to own the means of production, but also tends to regard innovations in science and technology a closely guarded secret. In these communist regimes hardly does any private industry worth the name exist, if at all there are some vestiges of voluntary efforts, the decision in what form science and technology is to percolate to the people will be taken at the highest level.

In a democracy like India's — 'Free Enterprise' is rather an elastic concept and very difficult to define in precise terms. India which is a developing country has to follow a mixed approach. Both private sector and government's control have to go hand in hand. Among the businessmen, even the staunchest supporters of 'Free Enterprise' usually require certain inputs from Government, what exactly are the areas for appropriate Government contribution varies from group to group ? There is little agreement on the point. However, the following examples of Government's functions towards promotion of technology and innovation may be accepted as legitimate:—

(i) Collecting, publishing and analysing statistics about the industrial processes, carrying out

(Contd. on page 27)

8th Plan: 7% p.a. growth possible

V.G. Bhatia

With an investment rate of only 24.5% we can attain a GDP growth rate of 7% p.a. in 8th Plan. More than this, the quality and content of the gorwth will be better says the author. (The views expressed are purely personal),

NEWSPAPERS HAVE BEEN FULL OF NEWS about the Eighth Plan. It has been mentioned that the Eighth Plan will aim at 6% p.a. growth in real GDP, 10% growth in exports in Volume terms and will aim at bringing down the *ICOR* from 4.6 to 4.3. This writer, however, has come to the conclusion that we can get 7% p.a. growth with an investment rate of 24 5% of GDP, i.e. an investment of Rs 627,000 crores at 1989-90 prices during the 8th Plan. The reasons for this view are explained below.

Performance of the economy

The first 3 years of he 7th Plan were not very good as far as monsoons are concerned. In fact we had three consecutive drought years, the one in 1987-88 being one of the worst at least in the last 25 years. Even so, Indian economy performed rather well on the whole as will be seen from the following figures:–

Table I

(Rs. crores at 80-81 prices)

	GDP at market prices (GDP)	*Gross capital formation (GCF)*	*Gross rate of investment % of GDP (Col. 2/Col. 1 x (100)*
	1.	2.	3.
1984-85	167529	32674	19.63
1985-86	177694	39965	22.49
1986-87	188691	40241	21.33
1987-88	197022	40171	20.39

(Source: CSO)

It will be seen that in the first 3 years of the 7th plan, the GDP at market prices has increased by Rs. 29,493 (at 1980-81 prices) whereas the total investment in these 3 years of the 7th Plan was Rs. 120,377 crores (1980-81 prices) giving us an ICOR of 4.08.

If we take the first 4 years of the 7th Plan, the performance of the Indian economy was of course far better, because it was in 1988-89 that we had a good Monsoon and a bumper harvest. In fact, in the writer's view, the GDP growth in 1988-89 was well over 11% in real term, and not the 9% figure mentioned in the Economic Survey and the RBI report. The reason is rather simple: agricultural value-added increased by over 20% and industry and services by 8%,this gives us a growth rate of 11.6%. Thus a figure of 11% is rather conservative, The basis for 9% figure is however not known. As per the latest figures of production, even if the food production in 1988-89 is taken at 166 million tonnes, it amounts to an increase of 20.3% over the previous year's figure of 138 million tonnes. Cotton and Oilseeds production has however increased by over 23% and 30% respectively. Now in the index of agricultural production, foodgrains has the weight of 68.1%, Cotton 3% and Oilseeds 11.0. Thus between them, these 3 items account for 82.1%. Even in the remaining items there is an increase but not to this extent except for sugarcane where the increase is small but the weight of sugarcane is only 7%. Thus this writer's estimate is that agricultural production increased by no less than 20% but value-added in 1988-89 increased by even higher than 20% because of the higher cost of production in the preceding year due to severe drought. Much of the production of pulses, coarse grains, cotton and oilseeds was just a gift of good monsoons.

The inescapable conclusion which emerges is that real GDP growth in 1988-89 was over 11% and not 9% as being mentioned.

In the final year of the 7th Plan if we assume that food proudction will be only 170 million tonnes (against the target of 175 million tonnes) and the value-added growth in industry and services will be the same as now viz. around 8%, we get GDP growth of over 5%.

As regards the gross rate of investment (i.e. gross capital formation as % of GDP), the figure was 22.49%

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Save Ozone

Dr. Shaista Bano

The Ozone layer in the stratosphere is vanishing at a rate faster than estimated. The depletion will have a far reaching impact on the global climate and in fact the very survival of the life one earth. It is time to save the disappearing ozone, says the author.

A UNITED NATIONS SPONSORED CONFERENCE at Helsinki on May 2, 1989 agreed to step up the efforts to save the vanishing ozone layer. The persistent depletion of the ozone layer in the stratosphere is a major concern of the mankind today as the scientists say that the ozone layer around the earth is vanishing at a rate faster than estimated. Ozone, which has already depleted by more than 2 percent, is the only gas in the atmosphere which filters out the dangerous ultra-violet (UV) radiations which reaching the earth can cause skin cancer, cataracts and reduce immune-response leading to infectious diseases like herpes, and damage crops due to decrease in photosynthesis. In the face of ozone losses taking place all over the globe, even small decrease in its level may have far-reaching impact on global climate and, in fact, the very survival of the life on earth.

Ozone depletion

Ozone is a highly reactive isotope of oxygen and is formed by UV radiations having a wave-length of 100 to 400 nanometer (nm) and not perceived by human eye. Ozone in the atmosphere absorbs essentially all the sunlight at wave-length below 300 nm and regenerates the oxygen, an equilibrium being established between the destruction and generation of ozone, its concentration remaining constant under normal conditions. However, with greater industrialization ozone depletion is occurring far more rapidly and that too in a pattern significantly different from what had been forecast. Now it has been established that the primary villain is a family of halogenated gases known as choloro-fluoro-carbons (CFCs).

Chloroluorocarbons

Thomas Midgley Jr. of the United States discovered in 1930 the CFCs which are the most controversial groups of synthetic organic compounds at present as regards their role in the destruction of stratospheric ozone, and contribute about 15-20 percent of the total green house gases and thus pose a serious problem in terms of "green house" effect as well. One may wonder why at all man opts to manufacture them while the nature does not.

Both $CFCl_3$ and CF_2Cl_2 under the trade name "Freon" are widely used as refrigerants. Dichloro-difluoro-methane (Freon-12) is extensively used as propellant in aerosol bombs. it is non-toxic, non-flammable and chemically inert gas at ground level The CFCs are extremely stable and persistent in the environment.

Mechanism

Millions of Kilograms of CF_2Cl_2 have been released into the atmosphere from aerosol cans. The released CFCs slowly diffuse into the upper atmosphere and undergo photolysis to produce chlorine atoms which decompose ozone into oxygen via the oxide of chlorine and finally atomic chlorine is regenerated. The role of the chlorine atoms is that of a catalyst. The chlorine oxide cycle may be three times more efficient in the destruction of ozone than the nitrogen oxides' cycle produced by the SST-type (Supersonic transport) aircraft of the concorde type. The oxides of nitrogen are produced when air passes through the very high temperature of a jet engine. Nitric oxide reacts directly with ozone to form nitrogen dioxide and thus reduces the concentration of ozone in the stratosphere. Moreover, nitrogen dioxide prevents the possible recombination of atomic and molecular oxygen to regenerate ozone. These oxides of nitrogen continuously recycle and catalyse the decomposition of ozone.

There are some other chloro-compounds also such as carbon tetra chloride and methyl-chloroform which are not covered under Montreal Protocol but harm the ozone layer, their use being as solvents.

Volcanic eruptions cause further damage to the ozone layer by releasing huge amounts of chlorine in addition to other substances, e.g., nitrogen oxides

and carbon dioxide. According to an estimate chlorine concentration in the upper atmosphere has gone up from 0.6 parts per billion (ppb) to 2.7 ppb during the last 25 years of industrial growth.

Need for speedy remedial measures

The alarming news about the Antarctic and Arctic ozone loss should be and eye-opener to us. Though 25 industrialised countries, under the sponsorship of the U.N. have signed an agreement in September 1987 to cut down world wide CFC's/ production by half by the end of the century, the Montreal Pact did not go far enough. Britain is one of the 25 major producers of CFC gases which are used in various aerosol and for insulated lining in refrigeration equipments. Worried over the deteriorating situation, Britain hosted an International Ozone Conference during March 5-7, 1989. The U.N. sponsored Conferrence of May 2, 1989 referred to in the very beginning of this article, is symbolic of the great attention which this burning problem of the day is receiving. Now eighty countries have decided to step up the efforts to save the disappearing ozone layer. The declaration includes an agreement to phase out by the end of the century many CFCs blamed for eroding the ozone layer. The Helsinki declaration agrees to provide financial and technological help for developing countries to allow them to phase out CFCs without dampening Man's quest for bettering his lot in tune with his aspirations for better and fuller life, one of material benefits and prospoerity It is time now that he responds suitably to the nuisance of depleting ozone layer or else he will roll down the slope to sure destruction. □□□

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in 1985-86, the best of the first 3 years of the 7th Plan Assuming the investment rate of 23% in 1988-89 and 24% in 1989-90 we get the following picture of GDP and Gross Capital formation (Investment) in all the 5 years of the 7th Plan.

Table II

(Rs. crores in 1980-81 Prices)

	GCF	GDP	Rate of investment
1984-85	*32874*	*167529*	*19 63%*
1985-86	39965	177694	22 49%
1986-87	40241	188691	21.33%
1987-88	40171	197022	20 39%
1988-89	50300	218694	23.00%
1989-90	55111	229629	24.00%

Thus we get an increase in GDP of Rs. 62,100 crores (at 1980-81 prices) with an investment of Rs. 225788 crores (at 1980-81 prices) which gives as an ICOR of 3.636 or say 3.64.

Marginal increase of investment rate

The important conclusion which emerges is that the ICOR in the Indian economy has already come down rather significantly and is likely to be less than 3.64 in the 7th Plan. All this talk of bringing down our ICOR to 4.3 in the 8th Plan is therefore rather meaningless because our ICOR is already much less than that.

To achieve 6% growth rate in the 8th Plan with the present ICOR, we will need an investment rate of only 21.84% of GDP which is lower than the rate of investment being achieved now. Hence this talk of Indians having to make great sacrifices to achieve 6% growth is also meaningless.

On the other hand, if we continue to have the investment rate of 24% assumed for 1989-90 in the above calculations, we get a growth rate of 6.593% or say 6.6%- *without* any increase in either the investment rate or any improvement in efficiency. However it is certainly possible to increase the rate of investment marginally to at least 25% of GDP. It is also surely possible to improve the efficiency and reduce ICOR further to say 3.5 by giving higher prioirty to low ICOR sectors such as Agriculture, construction, small scale industries, agro-industries and knowledge based and employment intensive industries which will in turn boost employment and growth in services—trade, transport, banking, and, most important, HRD i.e. education and health sector which are going to be given a high priority in the Eighth Plan.

Thus with an investment rate of only 25% of GDP, we get a GDP growth rate of 7.14%. For 7% p.a. growth we need an investment rate of only 24.5%. What is even of greater importance is that the content and quality of growth will be better i.e. it will tilt in favour of the poor, and women and children, and generate more employment, better distribution of income, early eradication of poverty and less pollution and better environment because of higher priority to agriculture, forestry, fishery, irrigation, rural infrastructure and greening of India. With 10% increase in exports, as per the author's calculations, the Balance of Payments will also be well under control.

Conclusion

To conclude, here is the way for achieving 7% p.a. growth of GDP in the 8th Plan with an investment rate of only 24.5% and a total investment of about Rs. 627000 crores at 1989-90 prices in the 8th Plan, which is easier to achieve when the economy is growing faster. Thus there is every justification for aiming at 7% rate of growth. This will give us about 5% per capita growth— which is not high by standards of many developing countries who have achieved it for over long period of 20 years or more. Why should we be satisfied with less? Even with 7% p.a. growth in GDP, our per capita income in the year 2000 AD, will be less than 450 US Dollars at today's prices whereas most of the developing countries have per capita income higher than that *today* □□□

Devastation via Urbanisation

Sahil Brelvi

In the name of Urbanisation starts the onslaught on the natural resources of the country. This leads to the curse of inflation and economic imbalance, says the author.

THERE IS A SCHOOL OF THOUGHT IN INDIA which aims at dividing the country into cities and villages. This school of thought represents a class who are accustomed to life of leisure and pleasure, who are fond of imported things and who look sneeringly at the Gandhian concept of Indian economy. It is they who advocate urbanisation-sometimes in the name of development, sometimes in the name of space economy and quite often in the name of attracting tourists. Here starts the onslaught on the natural resources of the country. Vast industrial and commercial complexes are raised With every Vast industrial and commercial complexes are raised With every such establishment, comes into being a new slum. The process brings with it the seeds of corruption, crime and violence Architects, trained on western lines, are engaged on fabulous fees, Housing Boards are set up. Unscrupulous colonizers exploit the farmer. Cultivable land is encroached upon. Then starts the vicious circle of the nexus between contractors, property dealers and engineers Prices of land go up, much to the chagrin of the people for whom the entire exercise is supposed to be carried out. Urbanisation also brings with it the need for water works, the sewerage system, transport and so on. The more a city grows, the more unmanageable it becomes. Crime and violence follow. By an estimate the crimes committed in four metropolitan towns of India far exceed the crimes committed in 600,000 villages that do the countryside in the whole country. This is the 'gift' of urbanisation inspite of all the Police Bandobast in big cities.

Long back Mahatma Gandhi had realised, that prosperity of a big country like India, depended on the prosperity of her villages. He had once said, "The western civilization is urban. Small countries like England or Italy may afford to urbanize their system. A big country like America with a very sparse population perhaps, cannot do otherwise. But one would think that a big country like India with a teeming population and an ancient rural tradition which has, hitherto, answered the purpose, need not and must not copy the western model" for as he said, "High thinking is inconsistent with complicated material life, based on high speed, imposed on us by mammon worship." At another place he syas, "The fact must be recognised that people will have to live in villages, not in towns; in huts, not in palaces Crores of people can never live at peace with each other in towns and palaces They will then have no recourse but to resort to both violence and untruth. It is the city man who is responsible for war all over the world, never the villager" That More and more people are veering round the idea, is manifest in the writings of experts in the west. Several years ago the Soil Association's Regional Representative in Ireland, Mark Finnan wrote a very important article, reflecting the views of those who were looking again to land for security and satisfaction in life. This is what he said: "The pace and structure of life in our cities has allowed little opportunity for the creative expression of man's purposeful relationship to nature. This has caused both mental disturbances and physical disease which a more balanced life could eliminate." Concluding his article he stated the plain truth in the following words: "The influence exerted by powerful *vested interests is such* that nothing as simple and unprofitable as natural health and organic farming are ever entertained in the arena of present political administrations. The mass media are used to popularise the idea that health and happiness are available from a can or a bottle. *The welfare of millions throughout the world is in the hands of scientists, chemists and economists who are completely unaware of what constitutes natural health* or how it can be achieved."

An indepth study of the subject would reveal that more we rush towards urbanisation, more are we faced with, not only the curse of crime and corruption but also the curse of inflation and economic imbalance As per an estimate the cost of a multistorey building in the metropolis on a plot measuring 1000 sq. met could change the shape of an entire village with a population of 5000, besides improving the yield on fields, increasing thereby our basic working capital and stabilising our economy. Unfortunate as it is, we appear to have altogether ignored the simple arithmetic that 'Agricultural produce' is our basic working capital, whereon should be based our projects and planning, our policies and even our living standards and that, going beyond our means

and imitating west, would spell disaster turning us into perpetual debtors.

The curse of urbanisation is very much evident from the present day conditions prevailing in our big cities. Take the case of National Capital-Delhi where crores of rupees of people's hard earned money have gone down the drain in the name of urbanisation. Every year a new slum colony is added by migrants from villages in search of greener pastures, leaving behind pure open air to die in the din of the town. The National Capital has been driven to 'perpetual decay and decimation,' says a report by the Centre for Total Integration of Engineering Contracts, Constructions Technologies and Services for Development. The report further notes that pollution and despoilation of environment in Union Territory 'is a continuing affair in the lives of present and future generations 'and' the urban waste is being dumped on the rural people, depriving them of natural surroundings and bringing them nearer to unnatural deaths. Village Pradhans of Shahdara (Delhi East) have already approached the Lt Governor of Delhi to stop the 'rapid urbanisation' of villages around Delhi.

The National Commission on Urbanisation, in its report to the Union Government has observed that in just twenty years almost everyone of our major cities has been reduced to a virtual slum. The report attributed this to 'our policies and totally blurred perspective on urbanisation.' It is however, strange and also surprising that the same report advances an argument in favour of urbanisation. The argument is that "because the National Domestic Product has increased in urban areas during the twenty year period (1950-51 to 1970-71), urbanisation is a healthy and positive phenomenon since, unless urban India is adequately developed the rural economy will collapse under the sheer weight of numbers." In the light of these recommendations one may rightly ask: Does the rport mean to convey that a mere increase of 8% in NDP during a period of twenty years in the urban areas and a possible increase in the coming years is adequate justification to continue urbanisation ? Shall we go on increasing the slum towns ? Is the margainal rise in the NDP more important than farm product ? Will the items of National Domestic Product substitute food which is grown only in the fields ? These are some of the questions which require serious thinking on the part of th Union Government before accepting the recommendations made by NCU. To suggest that rural economy 'will collapse under the sheer weight of numbers' is a hypocritical thinking. The rural economy as envisaged by Mahatma Gandhi for an agriculturist country like India can sustain even greater numbers by involving the rural folks into the optimum developmental process.

It is a foregone conclusion that unless our natural resources are shared equally by the millions of our countrymen there will be no solution to our various problems. Urbanisation is a deterrent to this effort. ☐ ☐ ☐

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evaluatory and monitoring studies of the existing paradigms of technology and their social impacts. Maintaining uptodate data of the Gross Domestic Product, number of manufacturing firms and imports etc.

(ii) Exercising controls through tariffs and quota regulations to protect the business from certain forms of foreign competition.

(iii) Employing monetary and fiscal policy to encourage economic growth and discourage depression. Proper administration of tax policy, corporate capital investment and restrictive trade practices.

(iv) Subsidizing certain industries and providing incentives to the industries being taken to the depressed areas

(v.) Undertaking major technical innovations requiring great capital investment in the national interest e.g. weapons systems, hardwares for national defence, technology for space exploration, peaceful uses of atomic energy, provision of clean drinking water and public health amenities to the public

vi Another area could be to encourage research and development in collaboration with the private business. In India this has to be done on the same lines as has been done in the case of agricultural productivity wherein a widespread network of State Agricultural Universities, Indian Council of Agriculture Research, voluntary sector and State Departments of Agriculture are coordinating their activities.

(vii) Last but not the least is the effective extension, dissemination and diffusion of technology and innovations to the end users with the condition that the final products must reach out to the consumers at affordable cost.

The above list is by no means complete. At the strong end of the Free Enterprise spectrum some may dismiss the above suggestions outright (perhaps reluctantly accepting some of the legitimate functions as necessary "because of the crises Government has created"). At the weak and of the spectrum are those who would accept all of the above, and expect a lot more, excepting the Government's direct intervention in product and process development in areas where private industry is capable of supporting the work itself For example in a country like India there is no need for the government sector to enter into the manufacture of bread, jams and soft drinks even with private collaboration There has been a lot of distrust between industry and the Indian government. The fear psychosis of impending government's control must go and the confrontation between the government and industry must end. A congenial 'Climate' leading to technological development and economic growth must evolve. ■■■

ICDS-a participatory approach

Pamposh Dhar

The Integrated Child Development Services, a comprehensive scheme of child survival and development aims to combat malnutrition and lend health support to children. A few case studies in Udaipur district reveal that only about 10% of the children can be considered healthy; others malnourished. In these circumstances ICDS can ensure the very survival of the Child. The scheme which is introduced in that district has the additional aim of increasing the participation of women, says the author.

AMONG A NATION'S MOST PRECIOUS resources are its children the architects of its future and a reflection of its present realities The proper care of children must therefore be a high priority for any country. In India, despite many years of progress, a very large number of children are still threatened by malnutrition, illness and even death

Against this grim background, the government is attempting the daunting task of ensuring good health and nutrition for all pre-school children in the country with the help of the Integrated Child Development Services, a comprehensive scheme of child survival and development launched in 1975

This scheme aims to combat malnutrition and lend health support to children in the crucial first six years of life. It also improves the health standards and child rearing abilities of mothers.

a comprehensive scheme

ICDS activities centre around the "Anganwadi," where children upto six years old as well as pregnant women and nursing mothers are given a daily cooked meal to improve their nutritional status In addition, the comprehensive scheme includes immunization and other health facilities, pre-school education for the children, and health, nutrition and child care education for women in the child-bearing age group of 15 to 45

The ICDS is the only comprehensive scheme for child development in the country It recognizes the essential links between good nutrition and health care, education and proper child care by the mother. As the various ICDS services complement one another, the total impact on the child or mother's health is increased

For women and children from poverty-stricken families in rural, urban and tribal areas, the ICDS brings hope of a better life and a way of breaking out of the vicious circle of poverty, ill health and illiteracy

A case study

In Ishwarvas, a small village in Udaipur district, deep in the tribal belt of southern Rajasthan, a worker minds a roomful of children at an Anganwadi centre, teaching them nursery rhymes or how to count on an abacus, and giving them locally made toys to play with She cooks a meal for the children to supplement the food they receive at home, monitors their growth, advises their mothers on nutrition, health and child care

She provides these services in an area ravaged by frequent drought, in a community weighed down by extreme poverty, where literacy is abysmally low and infant mortality and child morbidity alarmingly high

In Udaipur district, only about 10 per cent of the children can be considered healthy, the rest being moderately or severely malnourished The infant mortality rate is more than one and a helf times the national average rate of 100 per 1,000 live births Less than two per cent of the women from scheduled caste and scheduled tribes are literate

In these conditions the ICDS can ensure the very survival of the child before continuing the care which will make the child health, provide mental stimulation and introduce the child to a process of learning in preparation for school

The ICDS project in Udaipur district is among several suported by the World Food Programme, the food aid organization of the United Nations, which provides the food to supplement the meagre diets of the women and children who visit the Anganwadi.

WFP also helps in training ICDS personnel and monitoring the programme. The monitoring sometimes gives rise to new ways of using WFP food assistance to make the ICDS more effective.

Among these is a scheme to construct Anganwadi Centres in areas where lack of space hampers the effective implementation of the project. In the five states where WFP supports the ICDS, the Programme will provide food asistance to workers who will build centres for women and children in their own villages on land donated by the community

660 centres are to be built in this way by 1992 in Assam, Kerala, Rajasthan, Madhya Pradesh and Uttar Pradesh. About 200 of the new centres will be in Rajasthan's Udaipur, Chittorgarh, Dungarpur and Banswara districts.

The scheme was proposed with the aim of meeting the need for Anganwadi centres designed specifically to provide a healthy and stimulating atmosphere for the children, with adequate space, light and air as also a separate area for cooking. This was a direct reaction to the inadequacies of rented space.

But as the project took shape, it was realized that it could be used to improve the effectiveness of the ICDS in another way too.

Participation of women

The scheme, which is being introduced in the first instance in Udaipur district, now has the additional aim of increasing the participation of women, and the involvment of the community, in the ICDS programme

In recognition of the vital role that the mother plays in a child's development, the ICDS seeks to encourage women's participation in the scheme, offering supplementary food to pregnant and nursing women. But the response from women has been limited, with unfortunate repercussions for the children

Babies up to three years old are particularly vulnerable to malnutrition and fatal illnesses, but if the mother does not participate in the ICDS, infants are usually not brought to the Anganwadi for the supplementary food, they are not immunized and do not receive proper health care

Older children may be sent to the centre on their own, where they receive food and take part in the pre-school activities But if their mothers are ignorant of good child care practices, the children are bound to suffer.

Reasons for the poor participation by women include lack of awareness of the services offered or of their significance, lack of space for a women's group to function at the Anganwadi centres and inconvenient timings which clash with the women's hours of work.

The WFP scheme to build new Anganwadi Centres will attempt to involve the women and local community at every stage, beginning with selecting the site for the new centre, choosing a design suited to the end use, deciding on materials to be used in construction and the most effective use of the centre for women's and children's development when it is ready

It will seek the help of existing women's development groups in increasing the village women's awareness of the ICDS programme and their participation in it, as well as in integrating women's and children's development activities.

As women's development is inextricably linked with that of children, establishing some linkages between women's and children's development programmes would be a logical extension of the idea of integrated development which forms the basis of the ICDS scheme.

The discussions between the government, WFP and village representatives have begun in Udaipur district and the participatory approach is already showing some results in the shape of indications of a growing commitment to the ICDS by the community. Village women have expressed their willingness to help to build and maintain the centres that not many of them would have even visited in the not-so-distant past

However, community participation does not grow overnight The relationship must be nurtured to allow mutual respect and trust to build up. Before taking a joint decision, there must be an exchange of ideas which ensures that all concerned understand the options fully

Among the first decisions to be taken in this scheme are what construction materials to use and what design to follow, in both cases keeping in mind the purposes for which the building is to be used The need for more and better ICDS centres must also be kept in view

In sparsely populated regions with scattered populations, the avilable resources could be used to build smaller, auxillary centres to support the main Anganwadi, reaching a much wider section of the target group

The final decision on the kind of construction, as on all major issues, must be taken after careful consideration and thorough discussion. The process leading to the decision is as important as the decision itself Community participation could release a wealth of resources and commitment at the village level which could makde a crucial difference to the ICDS programme, making it flexible enough to overcome the limitations it faces as a highly centralized project. □ □ □

Technocratic support for Panchayati Raj institutions

P.N. Sharma

Involving panchayats in the planning process is a bold experiment. The objective of this type of participatory planning is to guide the Panchayats towards self-reliance. The participatory planning can be successful only if the fruits of benefits are equitably shared. So to make the Panchayati Raj institutions prepare their own plans, the government should provide them with technical support says the author.

INVOLVING PANCHAYATS IN THE PLANNING process is really a bold experiment. But before we embark upon such a venture, it is necessary to take into consideration all its implications and its backward and forward linkages. Actually, all the minute details should be worked out so as to reduce the uncertainties to the minimum.

Apart from being a political process planning is also a technocratic process. The technocratic component is essential to translate into action the polities and programmes decided at the policital level. Now that the Panchayati Raj institutions are being revitalised with sufficient statutory backing, it would be necessary to provide them adequate technocratic support to enable them to act as an effective planning and implementing agency for various developmental schemes. This is essential to make them effective partners in the pursuit of the national goals of development.

As a matter of fact the talk of democratic decentralisation is not new. However what is now being thought of is to provide adequate financial resources and autonomy at the village level so as to enable Panchayati Raj Institutions (PRIs) to plan for development of the village community according to the potential of the area as well as aspirations of the local people. But even if PRIs have sufficient autonomy and financial resources at their disposal, they may not be still able to take up any meaningful exercise in development planning. The basic reason behind it is that the levels of literacy and the knowledge and skills of the common man is so low that they may not be able to prepare any co-herent and integrated plan of action that could be implemented by the village community itself. Formulation of a plan for development of an area requires some special knowledge and skills starting from collection of basic data, assessment of local needs and resources, setting of priorites and objectives of development and finally putting everything in the form of an integrated and cogent plan and its proper phasing. This kind of experties is still not available with the Government functionaries let alone the office bearers of PRIs. It is in this context that the district has been accepted as a unit of planning in the scheme of decentralised planning. Even during the regime of Janta Party when it was decided that community development block should be accepted as a unit of decentralised planning, the Dantwala Committee had recommended that a team of multi-disciplinary expertise should be constituted at the district level. The underlying realisation was that plan formualtion is a specialised function and a team of experts is necessary for performing this task. It was also realised that the expertise is not available even at the district level let alone the block level. In the new scheme of things it is being envisaged that the PRIs will prepare plans at the village level and the Panchayats will be allocated funds directly for this purpose. The Government functionaries would be required to provide technical guidance to PRIs. In any case the major responsibility will lie on the Panchayats to formulate the plan and to implement it.

The experience in decentralised planning and devolution of funds clearly demonstrates that if adequate technocratic support is not provided for plan formulation at the local level the good intentions and policies may remain on paper. In Uttar Pradesh, during early sixties the Government had, in pursuance of the recommendations of Balvant Rai Mehta

Committee, completely decentralised the planning process. So much so, that it took a decision that plan outlays allocated to different sectors and which were divisible amongst different districts would be placed at the disposal of PRIs. In view of this decision the sector-wise outlays were transferred to the personal ledger accounts of Zila Parishads and subsequently PLAs of Kshetra Samitis (Block Committees) and Gram Panchayats. In most cases these funds were divided on uniform basis amongst the Blocks and then the villages. There were no guidelines as to how these funds will be utilised, the only classification was that of the sector Moreover, no advance palnning had been done and no assessment of needs or potentials of the areas was undertaken The result was that the funds could not be utilised becuase neither the village nor the Block could formulate any plan for their utilisation. It was also a fact that in the process of even distribution of finances between blocks and villages the entitlement of each unit was reduced to a paltry sum out of which no worth-while scheme could be financed. No project or scheme was thought of well in advance The experiment thus failed miserably.

What is more worrying now is the fact that the whole emphasis seems to be on allocation of money to Gram Panchayats. The norms for such allocation again have not been worked out scientifically Similarly, there is no built-in mechanism to motivate the Panchayats to raise their own resources for development. One of the objectives of participatory planning of this kind should be to guide the Panchayats towards self-reliance This needs to be considered seriously because what has happened in the name of development is the distribution of subsidies in villages. After the programme of community development was said good bye, the participation of the people in planning for development of their own villages was almost reduced to zero. The village community was addicted to receiving more and more subsidies on one or the other count and what is called the 'dependency syndrome' became more and more chronic. The jobs handled by the community traditionally were largely taken over by the government implicitly. This addiction would come as a major obstacle in utilisation of the Panchayats proposad resources for the common good.

Now comes the question of decision making and setting of priorities and objectives of the plan. Naturally, there will contradictory claims and priorities projected by different sections of village community. It would be difficult to make a consensus plan or a plan that would be acceptable to the majority. It is needless to say that the priorities should reflect the aspirations of the majority of the people who are either landless labourers or marginal or small farmers. This means that this kind of participatory planning and development can be successful only if there is equitable sharing of benefits. The past experience with PRIs has been that the poor are generally not associated with the plan preparation or decision making process. Although, in the proposed constitutional amendement safeguards have been provided for ensuring participation of weaker sections and women it may not be possible for quite sometime to bring these sections of society into the main-stream of planning and development process, in view of the overall socio-political culture. We have to adopt a very cautious approach and gradually we should try to promote the participation of the poor There are many successful stories in India and other developing countries that gradually the dominance of local elites can be minimised in this process.

What is most important is that the Government should provide sufficient technical back up to PRIs in preparing their plans. For this purpose, in the beginning it would be advisable that the developmental functionaries working at the grass roots level should prepare a set of alternatives which should be presented before the full body of Gaon Panchayat and out of these alternatives the Panchayat may be asked to select the best possible alternative. One of the major implications of this proposition is that the official functionaries working at the grass roots level should be well equipped in the task of plan formulation, implemention, monitoring, etc. They should receive special training. More important is their attitude towards the philosophy of participatory planning If they are properly oriented the experiment may have fair chances of success. Besides this, the officials of PRIs and certain resource persons of the village community or say the local leaders should be oriented and trained to take up the task of assessment of local needs and setting of priorities after consulting the majority of the people In this context, it is worth mentioning that the village people would be required to be acquainted with the techniques of certain basic surveys and analysing their results. They should also be trained in the task of participatory planning.
However, again the major responsibility of doing this would lie on the Government and its micro level functionaries. It would be necessary to develop simple techniques of surveys and participatory planning which can be used by the village people even if they are illiterate. In this connection, a number of experiments have already been done in developing countries in which such kind of techniques have been developed and the local people have been involved in conducting surveys, formulation of plans, and monitoring of the development programme. The techniques of participatory monitoring and evaluation have now been fairly developed. In a number of countries like Malasia, Bangladesh, Indonesia, Pakistan etc. the people have been involved in this task wherein the illiterate persons have been motivated to participate by using pictures and diagrams after a short training.

By way of conclusion, it may be added that while the proposed experiment in participatory planning should receive the support from all sections of

(Contd. on page 33)

Jawahar Rozgar Yojana

Dr. S.K. Goyal & Dr. Mahipal

The Jawahar Rozgar Yojana, says the author, is a step in the direction of tackling the problems of poverty and unemployment among the rural poor. In this article the author analyses the various aspects of the scheme and winds up with a few suggestions to make the scheme successful.

UNEMPLOYMENT/UNDER EMPLOYMENT AND poverty are the basic problems before us. About 80 per cent of our population lives in rural areas, therefore, the intensity of these problems is more in rural areas. The population of Schedule Caste, Schedule Tribes and Nomadic Tribes is poorest among the poor. Again, the incidence of unemployment among these sections of the rural society is very high. To tackle these problems, specific programmes which are formulated by the people and also executed by the people are the need of the hour. The Jawahar Rozgar Yojna (JRY) is a step in this direction

The JRY announced by the Prime Minister on April 28, 1989, will be implemented and administered by Village panchayats all over the country. 440 lakh families which are below the poverty line shall be benefitted from this scheme. Existing wage employment programme viz (NREP and RLEGP) have been merged into this Yojana. This scheme is expected to give employment to at least one member of each poor rural family for 50 to 100 days in a year, in the vicinity of places of their residences. It is also expected that some integrated schemes will be introduced to provide employment among nomadic tribes. 15 per cent of total resources transferred to Village Panchayats will be exclusively used for the benefit of the Schedule Castes and Scheduled Tribes. The State Governments will supply some model schemes to the Village pardhans for their guidance. 30 per cent of the beneficiaries will be women.

Finance and its allocations criteria

80 per cent of total finances for the Yojana will be borne by the Central Government and the rest 20 per cent will be borne by the States. Total allocation shall be Rs. 2625 crores and in this the States share will be Rs 525 crores and the Central share Rs. 2100 crores.

The funds will be allotted to state and Union Territories in proportion to the number of persons living below the poverty line. The devolution of these funds to districts will be determined in terms of criteria of backwardness such as the share of schedule caste and schedule tribe with total population of the district the share of agricultural labour to total labour and the level of agricultural productivity It has also been decided to give specific consideration to such areas as the hills, deserts and the islands The criteria for the distribution of resources to Village Panchayats from the districts will be on the basis of population of each Village panchayat. If the population of the Village panchayat is less than 1000, then, it will be assumed 1000 for the allocation of funds. It is expected that the Village Panchayat with a population of 3000 to 4000 will receive the money between Rs. 80,000/-to Rs. 1,00,000/-

Execution of the yojana

At the district level the funds will be allocated to the District Rural Development Agencies (DRDAS) and Zila Parishads (ZPS). These Agencies will open special accounts in the banks for the JRY and deposit the central as well as states assistance in these accountrs The funds of the other schemes will not be mixed up with the Jawahar Yojana The DRDAS and ZPS are expected to devolve the funds to the panchayats within one month of the receipt of money. The diversion of funds from one district to another as well as from one village panchayat to another will not be peritted. If the common interest of two districts or villages exist in a particular programme, then, the pooling of the resource may be allowed

The peculiar aspect of this scheme is that the Village Panchayats will be the pivot around which the scheme will revolve. The panchayat will hold the balance to select and implement the programme which will be beneficial to rural community. The Block authority will not interfere in the working of Panchayat. However, the Block authority may assist

the Village panchayats in technical scrutiny of the programme.

Type of works to be undertaken

As poverty is the product of economic, social, political, cultural and environmental factors, a package of programmes which affect the above mentioned factors is required to mitigate the poverty Keeping this aspect in mind the following programmes have been envisaged for the Yojana Construction of roads, houses for individual members of scheduled caste and scheduled tribe, rural banks, community services such as panchayat ghars, aanganwari, Primary school, water conservation, flood and drought control, irrigation facilties, construction of institutional sanitary latrines etc.

Suggestions

No doubt the JRY as it will engulf every village shall have an impact on the rural economy. The Planning and execution will be done on micro or grass root level. There are, however, certain points which require careful consideration

The criteria for allocation of resources to the states is backwardness, population of scteduled Caste and Scheduled Tribes and agricultural productivity while at the village level it is only population The criteria of allocation of resources at Village Panchayat level should be the same as it is at the state level as on account of other factors the intensity of poverty differs from one village to another Of course, the population of Scheduled Caste and Scheduled Tribes generally constitute the poorest section of the society but their condition is not uniform in every village A list of the households which live below the poverty line, describing their means of livelihood, income etc should be prepared at the village level and on the basis of this the allocation of a resource should be made

Besides this, large share of resources should be allocated to the Village Panchayats which are situated in interior areas as the problematic syndrome is more acute in these villages as compared to the villages situated in the vicinity of urban areas.

There are certain pockets in the districts which need specific treatment. For example, if some small scale industry is to be set up or developed in a cluster of villages because a single village panchayat can hardly be a viable unit for this This may, however, require an area specific plan for creating the infrastructural facilities for the industries

It has been stated that if a Paradhan or Sarpanch who may abuse the powers vested in him shall be thrown out by the people with the help of the weapon of vote But this weapon is already available to them and hence this is nothing new However, this is only one side of the coin and the other side is that there are some Village Panchayats where public opinion does not matter much as they have to cast their vote where the rural elite want them to do so; irrespective of their own choice. Further, elections nowadays, are a costly affair. Poor people can hardly bear them. Hence they depend upon the rural rich and the elite for funds and support. The result being that after winning the election they have to be at the back and call of these rich and elite.

As we know, Village Panchayats, as they are today, are not quite competent to formulate the plans entirely by themselves and then to execute the same becuase expertise is not available to these institutions. It is therefore, suggested that an expert body be constituted to assist them to formulate, execute and monitor the plans for the benefit of rural areas. It is feared that without this the huge resources may not be used optimally Of course, it is mentioned in the scheme that Blocks will provide the technical assistance to the Village panchayats but the Blocks themselves are not resources endowed to suggest plan for every Village Panchayat

The essential infrastructural exercise has to be done before releasing the funds to the Village Panchayat. Without an effective administrative control it is not possible to keep a check on the funds given to the five lakh villages Consequently the projects selected for the target groups may not give the desired benefits to them.

Conclusion

Considering the findings of various studies and the opinion of researchers/planners, the JRY has been launched by the Government It is a step in the right direction leading to decentralisation of planning and power No doubt it is a new experiment hence some operational difficulties may crop up in its implementation It is rather difficult to forsee all their difficulties and problems today, but we should have faith in our rural people.

The Government has decided to give the rudder of planning and development in the hands of the rural people and it is now upto them to use it properly. This scheme is a clear indicator of the fair intention and the sincere efforts of the Government in the direction of democratic decentralisation. ■■■

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society, the Government should take due care of the necessary pre-requisites for its success. One of the pre-requisites which is most critical is clarity about technocratic support to the PRIs and attitudinal changes in the bureasucracy The Government should not show unnecessary haste in implementing this scheme It should do sufficient homework and take some pilot exercises before launching it throughout the country on a uniform basis. The methodologies for planning by the village community need to be worked out very carefully otherwise any failure in implementing the scheme may damage the whole concept of democratic decentralisation and may provide impetus to further centralisation of the process of decision making. ■■■

BOOK REVIEW

Land Alienation in Tribal Areas by B. Janardan Rao, Karatiya School of Public Administration, Warangal, 1987. Pages 226, Rs. 160

Janardan Rao's study of three villages in Warangal District of Andhra Pradesh which was the scene of Naxalite movement in 1969 brings out the under currents of the political movement. Based on a case study of land records of past eighty years 1900-1980 of three villages situated in three different taluks of Telangana region, the author examines the process of 'depeasantisation' of tribals who are consistently impoverised. As a result, the native tribal has become himself alien in his original dwelling place. This has promoted a sort of dependency culture among the tribals. Hence tribal revolts and restlessness.

Spread in six chapters, the author examines in Chapter on Inroduction I the prevailing literature on tribal studies, mainly on transfer and alienation of land. Alienation is inherent in the exploitative production relations. Marx had defined alienation as fundamentally a particular relation of property, involving involuntary surrender to antagonistic 'other' (the capitalist) Added exploitation leads to added alienation.

Irrigation works, opening, of the rail lines have all led to throwing out the tribals from their adobe and uprooting them from their secure habitat, resulting in loss of forests and loss of cultivable land. What is shocking is the fact that the very land legislation whose objective is to protect the tribal is used against him through mischievous acts like transferring land in names of tribal adopted 'sons' and 'wives' in a bogus manner

The author descends as it were on his home ground in chapter 3 where he discusses land laws and administrative arrangements in respect of Telangana region. The account shows how ineffective the Special Deputy Collector (Land Alienation) is in detecting the cases of land alienation). A situation somewhat similar to that of bonded labour rehabilitation act.

'The surreptitious nature of the legislation and the ineffectual administrative machinery and the varied interests of the capital could not permit any effort of this type of structual solution to be successful', the author sums up.

As if to amplify this, the author comes to micro level citing the results of his study in three selected villages. Data from village records 1900 onwards are tossed to show the holdings of the tribals and the non tribals. Out of 250 households studies, 145 are tribal households and 105 are nontribals.

The study of land transfers over eighty years shows that the problem of land alienation is not an accidental one, but has arisen because of a 'concerted effort of antagonistic class interests' that operate in this area.

A technical reader would not accept this book as a scientific study. Author's inherent bias makes the work more of an impressionistic study. His methodology of selection of the villages and the households is also not clear. This reviewer feels that a carefully edited smaller version of the book would have kept the author on the rails and on proper track. That would also have reduced the size of the book and made it more readable and acceptable.

S.M. Shah

(Contd. from page 7)

these colonies. This will relieve the people, on the one hand, from legal impediments and access to civic amenities as a right on the other. Removal of legal impediments shall enable the people to get the plot/house registered, transfer/sale at point of need and to get financial assistance from employer/ financial institutions and also to use such property as security which hitherto are not available.

If the government is of the opinion that such colonies could not be made authorised colonies, for one reason or the other, they should take firm steps for removing them. The dual policy of the government not to grant authorisation to such colonies on the one hand, and the inaction of the government in removing such colonies on the other talk ill about the political will and also the impossibility involved in it. The above suggested policy measure shall solve the problem substantially in cities.

In respect of slums, the government should provide adequate civic amenities viz. drinking water electricity, health facilities, schools etc. The government should at once dispense with the practice of seizing the problem only when natural calamity takes its own chore: The town planning body may be asked to draw a comprehensive long term policy for rehabilitating the slums in a phased manner over a period of time. Houselessness remains a global problem and this is due solely to lack of political will. ■■■

Kottayam heralds the literacy revolution

Kottayam, the headquarters of a district in Kerala having the same name, has made history by becoming the first town in the entire country to achieve cent per cent literacy. The town has in fact stolen a march over Ernakulam district in Kerala where an intensive drive under the banner Nehru Saksharatha Jyoti is underway to eradicate illiteracy from the entire district and to achieve total literacy during the Nehru Centenary year. It was not surprising, though. The 1981 Census had already put Kottayam in the lead with 82 per cent lieracy in a State which still holds the record in the country with the highest literacy rate of 70 per cent, as per 1981 figures. The figure should definitely be higher now and the possibility of Kerala achieving near-total literacy by the time of the next census is very much there.

According to the People's Education and Literacy Campaign, Kottayam, PELCK to be short, the entire population of the town numbering 68, 823 is now literate. The intensive campaign that was launched on March 4, 1989 under the auspices of the National Service Scheme of the Mahatma Gandhi University took only 100 days to achieve this incredible feat. In all, there were 700 volunteers who took up this challenge with missionary zeal. While the N.S.S. Volunteers acted as co-ordinators, members of youth organisations, retired teachers, social workers and exservicemen came forward to assist the student volunteers. The task proved no cake-walk for the volunteers. They made the villagers overcome their physical and mental fatigue in the process of learning. The campaign caught the fancy of the citizens in no time and people from all walks of life participated in the campaign.

Many a good movement meets with premature death when the first wave of enthusiasm dies down. The people of Kottayam are aware of it and they have already planned the second phase of the campaign which consists of organised moves to motivate the newly literates in utilising their newly acquired knowledge continuously and in a sustained manner. The Department of Education of the Government of India has already sanctioned Rs. 1.67 lakhs for a 15 month post-literacy follow up programme. ■■■

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Making fruit toffees on small scale

A simple process of making fruit toffees at cottage industry level has been developed by the Central Food Technological Research Institute (CFTRI), Mysore.

The product is made from fruit pulp, sugar, glucose, skimmed milk powder, hydrogenated fat, essence and colour in optimum proportions. The process involves cooking of fruit pulp till the volume is reduced to one third of the original. Other ingredients are added and thoroughly mixed. Cooking is continued to a final weight equal to about 120% of the original weight of the fruit pulp. The cooked mass is transferred to a hard, level and smooth surface, pre-smeared with fat. The flavouring material is added at this stage and the whole mass is spread into a 0.75 cm thick sheet. It is allowed tq cool and set for two hours. The solid sheet is cut into toffees and dried to a final moisture content of about 5-6%. The toffees are wrapped in either cellophane paper or tissue paper and packed in air tight jars or tins for longer storage.

The major equipment required for small scale manufacture of fruit toffees include boiler, pulping machine, stainless steel steam jacketted kettles, kneading and cooling, tables, home dryers, screw type homogenizer and monel metal sieve.

The process information is available from CFTRI free of cost. ■■

Caffeine from tea waste

In the processing of tea, a certain percentage of the total tea produced accumulates as tea waste in the form of sweeping or fluff, stacks and leaves. This waste having a caffeine content of 1.5-3.5% presents itself as an attractive raw material for production of a very valuable product Caffeine.

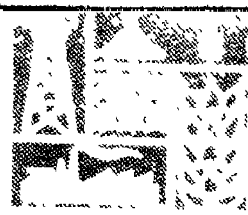
Caffeine is widely used in pharmaceuticals both as a free base and as mixture (e.g. citrated caffeine and caffeine/sodium benzoate). As a stimulant of the central nervous system and a diuretic, caffeine gives relief from minor fatigue and neuralgia and is useful in headaches due to eye strain. It is also used in what are called 'Caffeine tablets' to produce prolonged wakefulness. Caffeine is used in cola beverages for its milk pick-up property.

The Regional Research Laboratory, Jorhat has developed a process for extraction of caffeine from tea waste. The waste is cleaned and boiled with lime liquor bringing the caffeine in aqueous phase. Filtrate is then extracted counter currently with benzene and the extract is evaporated to recover benzene for reuse. Caffeine thus obtained is dissolved in water and subjected to crystallisation to get pure caffeine. The yield is about 1.5-2% by weight of the tea leaves. The decaffeinated tea can be processed to produce boards and other products.

The main advantage of this process is that caffeine can be extracted economically and in pure form from tea waste obtained from tea processing plants, instant tea manufacturers, and tea garden prunings. Moreover, conventional machinery used for solvent extraction of oil seeds can be adapted with slight modifications for continuous extraction of caffeine by this process.

One firm is already using this technology commercially and producing about 25-30 tonnes of caffeine per annum. ■■■

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Over 4.6 lakh shallow tubewells for small farmers

Over 4.62 lakh shallow tubewells and dugwells are to be constructed during the current year under the centrally sponsored scheme of assistance to small Marginal Farmers for increasing agicultural production. It was imperative to meet the target so that the productivity from the small farmers' fields could be raised. The state governments have been urged to take effective steps to exploit the available ground water potential in the identified areas.

During 1988-89—the first year of operation—about 3.28 lakh shallow tubewells/dugwells were constructed. The Centre released Rs. 86.915 crores. The programme was implemented in only ten States as follows, with Haryana and Karnataka not opting for it: Uttar Pradesh, Bihar, Madhya Pradesh, Orissa, Andhra Pradesh, West Bengal, Tamil Nadu, Assam, Maharashtra and Gujarat.

For the current year, the Centre has already released Rs 25.385 crores to nine States out of its share of Rs. 50.77 crores. (Assam has not yet worked out the details of the programme for the year).

The Committee was informed that the overall target of energisation of 2.56 lakh tubewells/dugwells in 1988-89 has exceeded by about six thousand.

Construction of shallow tubewells/dugwells is one of the components of the multi-pronged strategy outlined by the Task Force on the Special Foodgrains Production Programme (SFPP). It provides for exploitation of ground-water potential in the plains and delta regions of the selected States through construction of wells in the holdings of small and marginal farmers. The task Force identified 134 districts in 12 States covered under SFPP, for construction of shallow tubewells/ dugwells. The total cost of the programme is shared equally by the Centre and the participating States.

The programme facilitated cultivation of an additional crop of oilseeds after harvest of kharif crops and before sowing of Rabi crops last year in some areas covered under it. Similarly, it helped in increasing area under pulses after the Rabi harvest. In West Bengal, Bihar and Uttar Pradesh, sowing of paddy nurseries could be advanced, thereby getting better productivity of rice.

During Rabi 1989-90, the areas under the command of wells were brought under irrigated wheat. During the current Kharif, these wells have helped again in advancing paddy nurseries. □□□

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Visualising future power demands

K. Satyanarayana

The author discusses, here, our energy status, requirements and sources as also the future options and concludes that solar energy, biogas, bio-mass and wind energy will make a major contribution to the future power demands. He suggests that India's energy needs must come from decentralised systems located in villages and non-conventional energy resources must be exploited for development.

ENERGY IS THE BASIC ELEMENT OF human activity and an indispensable input to socio-economic development of a country. The present energy scenario has drawn the attention of the scientists, the planners and the public alike realising that the process of overall development could be geared up only by adequate energy supply. Now a need has come to assess and re-evaluate critically the status of enery to systematically plan our energy developmental programmes to make India industrially more strong. The following analysis based on the available data gives the systematic understanding of present and future trends of energy.

Energy Status

It is recognised that energy consumption from conventional energy sources is growing in the World at an accelerated pace, viz., at 4,000 million tonnes of coal equivalent per year. For this one has to add about 15% for non-commercial sources like agricultural wastes, wood etc., which account for one third to one half of the total energy consumption in Latin America, Africa and Asian countries. About 20,000 million tonnes of coal equivalent per year would be required in the world by 2000 AD.

The USA has approximately 6% of the world population and uses 38% of the total energy in the world. The total energy consumption is increasing between 4-5% per year. Russia is basically coal dependant for energy and half of its energy needs are supplied by coal and lignite.

When India became Independent in 1947, the power generation capacity in the country was merely 1300 MW. It increased to 1700 MW when the plan era commenced in April 1951. Now 37 years after, the total installed capacity has come to about 55,000 MW, an increase of 32 times. It is estimated that total energy requirement at the turn of the century will be around 1,10,000 MW. The net reserves of coal, oil and gas in India as on today amount to 80 billion tonnes, 500 million tonnes and 45.5 million cubic meters respectively.

The rate of growth in the use of vehicles is now around 16% per annum. While this is a welcome development in that it indicates a greater degree of affluence and provide a higher degree of comfort in personal transport, we have to be aware of its likely impact on energy resources and consider what steps are required to be taken to meet the projected demand for fuel by transport sector. The energy consumption in case of automobiles is estimated at around 1900 Btu/passenger kilometer.

It is estimated that the demand for petrol and diesel is likely to increase from 17 million tonnes (as in 1984-85) to about 40 million tonnes by the turn of the century Even if we assume that the consumption growth rate will be around 3% beyond 1990 the requirement will be in excess of 100 million tonnes by the turn of the century.

With the discovery of large reserves of gas in some parts of India, a proposal has been made for setting up of about 1500 MW of generating capacity based on natural gas fired combined cycle plant along the HBJ pipeline.

The coal reserves of the country are estimated to be around 80 billion tonnes. The demand for coal by the turn of century is estimated to be around 400 million tonnes. There are only three countries which have attained this level of production namely USA, USSR and China and they have abundant reserves in comparison to our country. Their coal reserves are estimated in trillion of tonnes. It is therefore questionable whether we can sustain an annual production level of 400

million tonnes of coal on long term basis given the limited reserves.

Compared to several countries, the reserves of the energy of India in terms of per capita is 176 tonnes/person which is quite low. USA, USSR and China have energy reserves 13466,22066 and 1168 tonnes of coal per person respectively. Oil reserves of 34.83 tonnes/person in USSR, 16.32 tonnes/person in USA and 2.86 tonnes/person in China are available.

Government of India has also made an attempt to forecast the energy requirement from 1982 until 2000 AD as presented in table 1.

Table 1

Forecast of Energy Demand

Energy source	Year 1982-83	1987-88	1992-93	2000/2001
Coal*, MT	96.8	131.5	186.6	308.0
Oil* MT	25 4	33.5	44.7	74.2
Electricity*, Twh	128.3	191.2	282.0	471.0
Noncommercial Fuel**, MTCR	204 1	202.8	195.8	183.8

* does not include power for generation

** only for domestic use

MT million tonnes, Twh trillion watt hr

MTCR million tonnes of coal replacement

Sources and utility

The energy has been derived from various conventional and non-conventional sources like coal, oil, gas, nuclear, solar, biogas etc But the bulk of the energy (over 60%) of power generation in India is drawn by coal based thermal stations and (about 35%), by Hydro-electric stations The rest comes from nuclear stations (about 3%), diesel stations (about 0.5%) and gas power plants (about 1.5%). Coal is the most abundant source of commercial energy in India today and is used in all the sectors of economy except agriculture. Oil, besides being a source of energy is also an important raw material for production of petrochemicals and fertilisers. Government of India has cleared up some power projects of 1500 MW to utilise the natural gas sources recently discovered in various parts of India.

Financial Status

A recent perspective plan prepared by the Central Electricity Authority envisages creation of a total capacity of 48000 MW in the Eighth plan and 62,000 MW in 1995-2000 AD to meet the projected demand for electric power. This will require an investment of nearly Rs. 2 lakh crore in next ten years, more than the entire investment allocated to the public sector in the Seventh Plan.

The Department of Atomic Energy has drawn up an ambitious plan of installing 10,000 MW of capacity for nuclear energy by 2000AD. This will need a massive investment of Rs. 10,000 crore by the turn of the century.

In order to reach the target of 400 million tonnes of coal by the turn of the century, an investment of Rs. 1500 crore is necessary. Despite a massive investment for power in the small scale sector, India's progress and development lie in agriculture and heavy industry. Both these need an uninterrupted abundant power supply.

Limitations

What has been seen in recent years is a tendency to drill oil wells faster and deeper inorder to maximise oil production. This is a dangerous tendency which will exhaust India's oil wells faster than expected and involves a huge investment of money in operation. In recent months the Government has cleared some gas based power projects which can be put on stream rather quickly. But gas has numerous clients like fertilisers, chemicals etc and it is not unlimited. Nuclear energy has yet to make its impact in solid terms, though it has an ambitious programme to be carried out in the coming decades. Diesel is a costly proposition for power generation. The superior grades of coal which do not have much in reserve, are primarily earmarked for metallurgical processes. Thermal plants thus have to utilise low grades of coal with high ash content (about 30%) which makes their options more complex, particularly with plants of older design. While our reserves for this type of coal are considered to be high, our known resources (diesel) oil and (natural) gas are limited and have to be preferentially used for road transport and other industrial/commercial needs.

The rapid growth of conventional energy system has not been without some problems Heavy investment has to be made in the mining and transportation of coal. Establishments of large thermal, Hydel and nuclear power plants have faced serious protests from social action groups who are vigorously active in asking for review of decisions to set up high dams for hydel power generation and irrigation and focussing the attraction of the people to the hazards of having nuclear power plants in the wake of recent incidents taken place in USA and USSR. The environmental problems have arisen due to the increased consumption of wood for fuel and other requirements leading to large scale deforestation. The conventional power projects require long gestation periods involving time and cost over-runs. This brings us thus to the question of rethinking on new areas of energy sources in view of the various limitations on conventional energy resources.

Future options

It is clear from the above discussion that fossil fuels are exhaustible and nuclear fission depends on what is believed to be fairly limited supply of suitable elements. Over the next 50 to 100 years man will be forced to shift his emphasis from fossil fuels to renewable sources. Some of the renewable sources are abundantly available in diffused forms. It would be difficult to give

quantitative projections of the contributions likely to be made by renewable energy sources in future.

It is possible to replace entire diesel oil required for water pumping and rural industry. 50% of the petroleum products required in the household sector and transport sector, 25% of the fuel oil and 25% of the coal can be met by renewable energy sources in 2000 AD. If hydropower schemes are also included in this pattern, it would be possible to decrease the total demand of conventional fuels by more than 45%.

India's energy needs must come from decentralised systems located in villages serving small populations. India accounts for 15% of world population but only 1.5% of energy consumption of the world. Of this 1/3 is in animate form including human labour, 1/3 is of noncommercial nature and remaining only is of the commercial nature.

It has been estimated that if the economic growth rates were to be in the range of 5.5 - 6% the total energy requirements would register a four-fold increase within the next 20 years. According to the report of the Working Group of Energy Policy, it is evident that there has been a steady increase in the consumption of the commercial fuels from 32 4% in 1978 - 79. The steep price hike in commercial energy forms has started showing serious repercussions on all programmes of development. A further increase in the consumption of commercial forms of energy by about 71 1% during 1987 - 88 and 86 2% during 2001 AD is likely to aggrevate the situation further.

An analysis of the energy scene in the country reveals that the only appropriate alternative to the social and economic conditions prevailing in the country is the 'Photosynthetic Model' for development It has been the source of an old, reliable and renewable form of energy.

Solar energy

Solar energy is the most favourable in the belt between latitude 40°N and 40°S in which most of the underdeveloped countries are located Applications of solar energy to meet specific requirments, such as for production of power on small scale, manufacture of ice for food preservation, distillation of drinking water, etc , appear to be the immediate needs of developing countries. Solar energy is also applied for other applications like solar evaporation, salt production and solar drying of crops and food products. Solar heaters/solar stills are now-a-days widely used in developed countries. There are also biological and photovoltaic process that might be used in developing nations. Photovoltaic conversion of solar to electric energy is highly developed for space-vehicle use and is expensive for large scale land applications.

Most parts of India receive 5 to 7 Kwh per day of solar radiation in 300 days in a year. The low grade energy is used for domestic purpose and high grade energy is used for commercial purpose like power generation etc. So far a total collector area of about 85,000 Sq mtrs has been created to cater solar energy to the above applications. Over 40,000 solar cookers have been sold throughout the country. One small thermal plant of 22 KW has been setup at Salojipally village in Andhra Pradesh and another is under installation in the Campus of Solar Energy Centre near Gurgaon in Haryana State. A project report for a 30 MW solar power station has been submitted to Government of India for approval.

Photovoltaic power systems seem to have maximum potential for decentralised on-site power generation in a long term basis because of its modular nature, trouble free operation and absence of moving mechnical parts Single crystal solar cells are being used in India with efficiency in the range of 10% to 20%. Efforts are being made for further improving its efficiency to 30% within the next few years. Recent technological development of amorphous and polycrystalline silicon cells seem to hold great promise. Nevertheless benefits from this technology are making an impact Over 10,000 street lights, 400 community lighting/TV systems, 800 solar water pumpping plants in the range of 1 to 5 KW have also been setup at several places in Andhra Pradesh, Goa, Karnataka, Tamil Nadu, Tripura, Uttar Pradesh and Lakshadweep. Two large plants of 22 - 25 KW capacity are under installation in Haryana and Orissa

A number of projects for further applications such as running of rural telephone exchanges, microwave repeater stations, railway signals, treatment of blakish water have been sponsored

Biogas

Over 10 lakh biogas plants have been set up sofar in the country Assuming that 85% of them are functional and generate five cubic meter of gas per day for about 300 days in a year, the total biogas generation is estimated to be equivalent of about 35 lakh tonnes of fuel wood per year valued at over Rs 140 crore besides generating manure of over 161.5 lakh tonnes annually Similarly over 300 institutional and community biogas projects for cooking and lighting for village community are under istallation stage

Biomass

Biomass, an ever available storehouse of solar energy, offers the most convenient natural route to meet the growing needs of the rural sector. It can be used in solid, liquid and gaseous forms through direct combustion, carbonisation, liquefaction, gasification and other conversion system.

The research and development projects undertaken in this direction cover production, conversion and utilisation and conservation of different aspects of biomass.

The objective is to link the energy plantation programme with the power generation and water pumping through gasification technology Over 11,000 hectares of land have been brought under plantation on waste lands in different parts of the country. The

(Contd. on page 15)

Energy for economic development

Dr. A.K. Agarwal

The author here analyses the energy perspective in North East India, as, according to him this region accounts for 7.8 per cent of total landspace of India and 3.88 per cent of the total population of the country. Laying emphasis on tapping of local sources of energy, the author describes the climate and topography of the region and asserts that commercial sources of energy like coal, petroleum products and hydro-potential can, very well, be harnessed for economic development of the region.

ENERGY APPEARS TO HAVE BECOME a major constraint to development especially for those countries which are deficient in fossil fuel and the balance of payment situation continues to be difficult A very important feature of energy scenario in India is the predominance of non-commercial energy as against commercial energy like coal, petroleum products and electric power. The energy consumption in rural India is mainly derived from non-commercial sources. Various surveys conducted by the NCAER and NSS have placed the total per capita energy consumption around 350-400 kgs (coal replacement) and the share of firewood comes to 240-265 kgs (original units). However, very little effort has been made to meet this requirement through indigenous production. It results in depletion of forest resources in an illegal manner. Similarly crop waste and animal waste are under enormous pressure in rural sector. Most of the non-conventional sources of energy is used for non-productive activities like cooking but energy input is negligible in agriculture and village industries.

Embracing a land surface of 25.5 million hectares the North-east region is connected with the rest of the country through a narrow strip of land in West Bengal. The region accounts for 7.8 per cent of total land space of India and contains 3.88 per cent of total population of the country. About 70 per cent of the area is hilly terrain. Consequently the topography is undulated in the bulk of the region. About two-third of the annual rainfall (250 cm on an average) occur during the four monsoon months of June to September. The climate of the region varies from the temperate in the hilly region to tropical in the valleys and plains.

The total installed capacity of power in the region in 1985 was of the order of 791.4 MW. The on-going projects will add 630 MW of generating capacity during Seventh Plan period. The Directorate of Power System, CEA has estimated the power demand at 377 MW in 1984-85 and 674 MW by the end of Seventh Plan leaving a surplus generation of 138 MW of power and 306 MW respectively The per capita power consumption in the north-east region is 35 KWH as against 154 KWH for all India in 1983-84.

The proportion of villages electrified is low in the region i.e., 45.30 per cent as against 64.11 per cent for all India in 1984-85. Nagaland ranks first in rural electrification programme as 70.83 per cent of villages have been electrified in the state followed by Assam 53.67 per cent, Mizoram 45.00 per cent, Tripura 39.45 per cent, Manipur 30 39 per cent, Meghalaya 27.54 per cent and Arunachal Pradesh 25.39 per cent. The task of rural electrification is relatively difficult because of the topography and sparsely populated scattered villages even on the hill tops Therefore, through improvised and improved technology, smaller but local sources of power should be tapped for providing electricity to such villages.

Commercial sources of energy

These include coal, petroleum products and hydropotential.

The coal reserves in north-east are estimated as about 928 million tonnes which may go to a higher level with the availability of modern technology. Coalfields of Meghalaya which consist of West Darrengiri, Langrin, Mawlong-shella, Jowai, Bapung Khliehriat are being mined in a primitive method since long. The largest coal fields of north-east are in upper Assam, Dilli Jaypore and Ledo-Borgolai (Makum). Other important coalfields are in Jairampur and Namchik-Namphuk

(Arunachal Pradesh), Borjan (Nazira) in Nagaland, Margherita and Mikir Hills of Assam.

The character of coal found in north-east is different from the Gondwana coalfields of Peninsular India. It is generally very friable and contain organic sulphur to the extent of 8 per cent. In general the ash is less than 25 per cent and moisture upto 10 per cent. The calorific value range from 6000 to almost 8000 cal/kg and some of the coal has good cooking properties which can be used in steel plants.

Since the regional coal reserves are mainly of low grade, the power stations should be designed to accept this variety by using modern technology. Such coal based generation projects should be taken which function more or less like captive generation of some other industrial use like cement factory. The actual choice of project will, of course, depend upon factors like terrain, seismacity of the area, submergence and rehabilitation problems and cost effectiveness of the project. However, this fossil fuel could be preserved to be utilised in future in view of the abundance of other resources like hydro-potential and huge reserves of natural gas.

The region is adequately gifted with Petroleum. The oil fields of Upper Assam have been exploited for several decades. Recently oil fields have been opened up in Nagaland, Tripura and Arunachal Pradesh as well. In Nagaland oilfields are at Dichagapha and in Arunachal Pradesh at Miao and Kharsang in Tirap District. Natural Gas has also been discovered in Tripura, Karimganj in Assam, and are likely to be found in Mizoram.

The present production of crude in Assam field is more than 50 lakhs tonnes per annum. The Natural Gas reserves have been estimated at 23 million cu mts. However, a good amount of natural gas is being flared away daily because of lack of planning to use it economically in the manufacture of chemical fertiliser and in generation of thermal energy. Boilers can be designed to use the gas instead of other fuels.

Hydropower potential

There are two principal river systems in the region, the Brahmaputra and the Barak. The Brahmaputra has its source in a glacier mass in the northern most chain of Himalayas in the South-West of Tibet. It emerges in India from the foothills under the names Siang and then Dihang until near Sadiya it meets the Dibang and Lohit, where after it is known as the Brahmaputra. It flows in gently in westerly direction through the Assam Valley for about 450 miles receiving other important tributaries like the Subansiri, the Jiabhoreli (Kameng), the Manas, the Sankosh, and the Tishtha from the North, the Buridihing, the Desang, the Dikhu, the Dhansiri, the Kopili from the South.

The average annual run-off of the Brahmaputra at Pandu is 400 million acre ft. Adding to this, the run-off of the principal tributaries which meets the Brahmaputra downstream of Pandu, the minimum annual run-off of the Brahmaputra may be taken as 452 million acre ft.

The Barak river rises on the southern slopes of the hill range to the north of manipur and flows towards South-west until it takes a sharp 280° bend at Tipaimukh towards north. After traversing for a distance of about 60 miles from Tipaimukh it flows into the plains at Lakhipur, where it turns west in the plains districts of Cachar through which it flows, and out-falls in to the Meghna in Bangladesh. The length of the river in India is 350 miles with an average annual run-off 30 million acre ft.

The Doyang river is one of the major river systems draining the hills of Nagaland. It join Dhansiri, a tributary of the river Brahmaputra near Golaghat town in Assam. The river Doyang has a narrow profile near Changsu village preceded by a wide valley, which is providing suitable storage space for impounding water.

From the above it is clear that the region is endowed with huge hydro power potential which is estimated at 1 lakh MW, the highest in the country. A negligible portion i.e. 300 MW has so far been tapped. This inexhaustable source of hydro power should be harnessed for economic development of the region.

It may be mentioned here that the cost of generation of major hydel projects of N.E. region will be less than 25 paise/unit at PH bushar and that at receiving end will be 35 paise/unit even if the power is to be transmitted to 2000 kms away. Therefore, both from the point of view of availability and economic viability of hydro resources the country will have no alternative but to harness the hydro potential of the region.

The investigation of 40 identified hydel projects with a generating capacity of approx 50,000 MW have already been initiated by various agencies, of which major share is of Arunachal Pradesh.

The north-eastern region lies in a seismic zone. Therefore, after identification of the hydro-electric project, detailed investigation such as topographical, hydrological and geotechnical should be carried out in a planned phase and comprehensive manner leaving no room for doubt while designing various structures, installation etc.

Construction of big dams of 700 ft on river Dihang and 500 ft on the river Subansiri to create storage capacity of 20.5 m. ac. ft and 6.25 m. ac. ft. of water respectively will cover a large area of land. It may cause displacement of many persons settled within the project area. It is natural that they will resent to leave their hearth and home. Therefore, they should be rehabilitated in a proper manner.

However, such big projects can be undertaken only after the most careful and intensive field investigations, a detailed and painstaking analysis of various data, requiring the services of technologists of all concerned disciplines.

With the implementation of generation projects it will be necessary to formulate a suitable transmission

system (EHVAC or HVDC) so that the huge power can be transmitted to the load centres of the country, A 500 KV high voltage d.c. line of 2000 MW capacity has been proposed to transmit power from HE projects like ;Kameng, Damwe, Ranganadi and Tipaimukh to the neighbouring states of West Bengal, Bihar, Orissa, etc. Further evacuation of power from the large sized projects viz. Dihang, Entalin, Rikor, etc. will require 700 KV a.c. transmission system to be supplemented by d.c. transmission with adequate power transfer capability and operational flexibility. Such a system will ensure optimal operating mix between large hydro generation of the region with the super thermal generation of the neighbouring states.

The execution of projects of 20,000 MW above which have been identified and investigations are either completed or in progress, will require a fund of over Rs 20,000 crores for the generation projects and Rs. 500 crores for evacuation of power from the generation centre to the load centre. The requirment of fund therefore, is likely to be the biggest constraint in harnessing the vast hydro power potential of the north east.

It must be ensured that the project report is realistic. The estimated cost must be nearby to the actual cost of the project The target dates for completion of various stages of the project should be indicated based on prevailing site conditions, availability of man and material, land acquisition, infrastructural development and other likely odds A lesson may be learnt from the execution of Loktak and Kopili HE Projects The constraints like geotechnical, land acquisition, adequate manpower and finance, etc should be taken care of It is also essential to develop workshop facilities with sophisticated machines to provide the necessary back-up service at the construction site of the project

There is also a great potential for considerable variety of micro hydel sites in the north-east The harnessing of micro-hydel potential may provide electricity in remote and inaccessible areas It is true that the cost of generation from micro/minihydel projects along with operation and maintenance of staff is higher than the bigger hydel projects, their advantage lies in cutting off heavy transmission cost and deforestation due to firewood requirement The state governments are required to develop a suitable management at the village/block level to maintain these projects after setting up of the plants Once the villagers get used to electricity it will go a long way in preventing indiscriminate felling of trees.

There are a number of state and central agencies presently engaged in the investigations and execution of the hydro electric project in the region These agencies should work in close collaboration and co-ordination for pooling their resources especially the trained manpower and the sophisticated construction equipments and machinery This will ensure optimum utilisation of locally available resources thereby reducing the project construction period and the cost over-run. There is a great potential for non-conventional energy generation in the north-east with its rich endowments of biomass resources, abundance of solar energy in the valley and ridges and swift wind in its hilly terrain.

Solar and wind energy

Solar photovoltaic system is an emerging technology that enables conversion of solar energy directly into electricity. But the system will work successfully in areas where sufficient sunny days are available ranging from 150 to 250 days and solar energy insulation is 0.75 to 0.875 KW/M².

There is dissimilarity in respect of availability of sunlight in different parts of the region. Most of the parts in the region get totally cloudless days from November to April for about 110 days and about 5 to 10 sunny days during each of the remaining months in a year. Therefore, total dependence on solar energy for use other than irrigation seems impracticable. However, solar P.V. pumps of ½ to 1 HP capacity with 50 per cent efficiency can be of use to the small and marginal farmers to get water for irrigation and drinking purposes. Similarly, solar driers of 500 kgs to 1 ton capacity per day can be installed over a wide area mainly for drying of crops and fish. Solar cookers can be used in remote areas to meet a major share of their energy requirements for cooking.More than 20 solar demonstration devices have been installed in different parts of the region with the funds provided by the NEC

In some ridges and slopes of hills swift wind blows where wind energy can be profitably harnessed. Data on wind velocity is not available for the entire region. At Pasighat and Tuting in Arunachal Pradesh the average wind speed recorded is 9.5 KMPH while in many areas of Nagaland, Mizoram, Meghalaya and Manipur it varies from 3 to 6 KMPH. In these areas low speed wind mill can operate. The NEC has sanctioned about 15 wind devices to be installed on experimental basis in different parts of the north-east

Bio-gas energy

Bio-gas is perhaps the most important component of renewable energy supplies. The agricultural waste and vegetable waste can be used as raw material for generating bio-gas (methane gas) at the village or farm level to provide more efficient energy conversion of the resources available at present without destroying the intrinsic value of these materials as fertiliser or animal feed.

Bio-gas is produced from anaerobic fermentation (in absence of air) of organic waste. The gas produced contains around 60 per cent methane, which is an efficient and versatile fuel. In the fermentation process many pathogens get destroyed as well and this could reduce health hazards Its other benefits include improvement in sanitation, reduction in the incidence of eye diseases among women and easy and efficient cooking and thereby reducing the drudgery in women's life

(Contd. on page 12)

Rural electrification through Co-operatives

R. Sidda Goud

The author here talks about utilisation of co-operative form of organisation in the task of rural electrification with special reference to Sirsilla Co-operative Electric Supply Society. With the help of data and results of study undertaken he brings home the point that CESS s have proved quite successful as far as electricity distribution in rural areas is concerned.

IT IS UNIVERSALLY RECOGNISED THAT electricity is one of the basic inputs for rural development. It helps in bringing dry lands under irrigation and provides motive power for the development of industries resulting in increased agricultural and industrial prodution. The development of industries creates more employment opportunities in rural areas. With the electrification of villages, health, education, water supply, transportation, communication, sanitation and life style systems tend to improve. Thus, an all round improvement in the level and standard of living of the people in the rural areas is possible to a great extent through rural electrification.

Electric cooperatives

The idea of utilising the cooperative form of organisation in the sphere of rural electrification owes its origin to the growth and development of rural electric cooperatives in the United States of America (USA). As late as mid-30s, nine out of ten rural homes in America were without electric service. The electric supply was managed by private power companies which were indifferent to the needs of the farmers. These companies used to charge heavy rates for rural services.

Realising that rural electrification was not possible without active government assistance, a separate agency known as the rural Electrification Administration (REA) was set up in the U.S. in May 1935. The REA was later on converted into a lending agency under the Rural Electrification Act passed in 1936. The farmers began to organise themselve into mutual aid cooperatives since 1935 onwards for obtaining electricity. The campaign resulted in massive rural electrification in the country thus upgrading farm and production and making rural living safer and more convenient.

Rural electrification in India

Rural electrification programme gained considerable momentum during the sixties when development of ground water for increasing agricultural production received special attention. In the mid-sixties (1965-66) severe drought experienced in different parts of the country resulted in the highest priority being accorded to the provision of assured irrigation in the villages through exploitation of ground water resources. Again the emphasis on rural electrification was shifted from village electrification to pumpset energisation, such a shift in government policy which called for a massive programme of rural electrification and the slow progress of the programme in the past led to the establishment of rural electric cooperatives as a complementary agency to the State Electricity Boards (SEBs) in the matter of distribution of electricity.

However, with the shift in government policy in regard to rural electrification, as discussed above, and a massive programme ahead, the annual conference of the Chairman of State Electricity Boards held in 1965 recommended the formation of rural electricity cooperatives in the country.

Rural electric cooperatives

In view of the recommendations of the Conference of Chairmen of State Electricity Boards, the Government of India in the Ministry of Irrigation and Power sponsored an investigation in respect of all the related aspects of the proposition by a team of U.S.A. experts from the National Rural Electric Cooperative Association (NRECA). The study team assessed the prospects for the formation of rural electric cooperatives in the country and identified following suitable areas in five states for the setting up of pilot projects :

1. Sirsilla taluq in Karimnagar district of Andhra Pradesh, 2. Kodinar taluq in Amreli district of Gujarat, 3. Rahuri and Shrirampur taluqs in Ahmadnagar district of Maharashtra, 4. Hukeri taluq in Belgaum district of

Karnataka and 5. a part of Lucknow district in Uttar Pradesh.

In regard to the prospects for the formation of rural electric cooperative in the country, the expert study team observed, that the establishment of rural electric cooperatives is the best way to accomplish the objectives of the rural electrification programme in the country.

The Sirsilla Rural Electric Cooperative Project was sanctioned in 1970. The project was however, revised in 1974 on account of cost escalation. The project covered entire Sirsilla (old) taluq comprising of 173 villages of which 46 villages were electrified by SEB.

Apart from the evaluation part of the organisation now it is important to analyse performance of CESS (Co-operative Electricity Supply Society) on targets and achievements, village electrification, categories-wise service connections and its contribution to weaker sections under its region.

Targets and achievements :

The CESS, to start with, had a 15 year perspective plan for electrification and infrastructure development, for the period 1970-71 to 1984-85. The plan targets and achievements are given in the Table-1 below:

Table - 1

Physical Targets and achievements of C.E.S.S.

Sl. No	Particulars	Position as on 1970	Targets from 1970-85	Achievements upto 1985	% of targets achieved
1		2	3	4	5
1	Villages electrified	46	127	127*	100.00
2	a) H.T Lines (KMs)	194	815	1010	123.92
	b) L.T Lines (KMs)	461	2573	3651	141.87
3	Transformers :				
	a) 1000 KVA				
	b) 75 KVA				
	c) 63 KVA	109	609	763	125.28
	d) 50 KVA				
	e) 25 KVA				
4	Service Connections:				
	a) Agriculture	2299	15700	24515	156.14
	b) L.T. Industries	105	760	1443	190.13
	c) Domestic/ Commercial	2272	13790	45220	327.91
	d) Street Lights	44	3309	4832	146.17

* 100 per cent village electrification completed in 1975 as against the target fixed by the CESS of 1985.

Source : Sirsilla, CESS.

As far as cent per cent village electrification plan is concerned, we have seen it was reached by 1975 itself as against the target date of 1985. Other targets too exceeded from 23.92 per cent in the case of H.T. lines to 327.91 per cent in the case of domestic and commercial lines vide Col. 5 of above table. The society in its next perspective plan of 1985-2000 A.D. may make available electricity to far greater number of customers. Thus, the CESS has made a commendable progress in Rural Electrification in the first 15 years of its existence.

Village electrification

Village electrification, it needs no explanation, is the first priority in rural electrification. In rural electrification programme in India, the first target is 100 per cent electrification of the villages. In this connection, it is very interesting to note that just a single connection makes a village an electrified one. It may be said that it is an easy target of village electrification. Only village electrification is not enough. In fact, power must be made available to masses for domestic and other purposes. The demand for electricity, however, is a result of income, employment etc., and these are known to be on the low side in rural India. Notwithstanding these drawbacks, village electrification is still the first target to be achieved in rural electrificatioin. The progress of village electrification and category-wise service connections of Sirsilla CESS are given in Table-2 and Table-3 respectively.

Table - 2

Progress of village electrification

Sl No	Year	No of village electrified
1	1970	46
2	1971	11
3	1972	50
4	1973	23
5	1974	29
6	1975	14
	Total	173

As shown in the above Table - 2 at the time of its establishment, the CESS had only 46 of its 173 villages elctrified or just 26 per cent of the total, over a period of 12 years of existence of the State Electricity Board. As a result, the rate of electrification prior to CESS was some 3.5 villages per year which could not be considered considerable, given the need for rapid energisation of pumpsets and giving other connections. The above table reveals that the CESS accomplished the target of 100 per cent village elctrification by 1975, over a span of 5 years, which comes to 25 villages in a year.

Thus, cooperativisation appears very conducive to rural electrification.

Service connections

Village electrification, naturally, is followed by the service connections - domestic, commercial, industrial, and street lighting. The perfirmance in this regard by the CESS upto 1985 is given in Table-3 below.

Table — 3

Service connections upto 1985-86

Sl.NO.	Category	No of connections	%
1	Domestic/Commercial	45.220	59.49
2.	Agriculture	24,515	32.25
3.	Industrial	1,443	1.90
4.	Street Lighting	4,832	6 36

Source : Unpublished Annual Reports of CESS, Sirsilla,

As the above table indicates the CESS made commendabel progress in connection with the service connections -to the consumers of the CESS As the figures in the table reveal the CESS Sirsilla is given a total of 76,010 connections, comprising domestic, commercial, agriculturel etc. out of which agricultural, domestic/ commercial beneficiaries form more than 90 per cent. The last category in the table appears to be the new dimension greatly added by the CESS in the area. It, apart from the special assistance for the weaker sections, is indicative, of the organisation's social commitment.

Measures for weaker sections

A unique feature of the CESS is to promote the use of electricity by weaker sections of the society such as cheduled castes and scheduled tribes and artisans etc. Since the CESS came into operation it has taken several measures to bring the deprived people under the rural electrification programme.

These measures include providing weaker sections a bulb per house free of cost and also interest free loans of Rs. 150 towards internal wiring; bearing the cost of extensions for industrial connections upto Rs. 3500 per connection where the connected load is 10 HP and Rs. 350 per HP below 10 HP; providing service connections to SCs, STs and landless labourers without collecting service charges and security deposits, and so on

Conclusion

Broadly, the study has revealed that the CESS, Sirsilla, has been able to meet the electricity needs of the people of the area to a great extent. The policies and procedures followed by the society have largely suited the requirements of the people. The society has, thus, been able to establish the usefulness of the cooperative form of organisation in the matter of electricity distribution in rural areas. ☐☐☐

(Contd. from page 9)

The gas consumption for different uses are as follows: 1. for cooking 8 cu ft per person per day, 2. for lighting 4-5 cuft per 100 candle power lamp/hour and 3. for motive power 15 cuft per horse power.

The Government of India has started a National Project for Biogas Development (NPBD). In north-east the progress made so far is not very encouraging. About 2.5 thousand biogas plants have been installed in north eastern states as against 6 lakh in India upto 1985-86.

According to 12th Quinquennial Livestock Census 1977-79, the livestock population in north-east is 12.5 million. The cattle dung available for biogas plant may be assumed at 50 per cent of total waste production as the animals are to go out for grazing in the fields. A farmer having one cattle per person of the family can only be in position to supply fresh dung every day regularly to have a family type biogas plant.

According to the assessment made by the Advisory Board of Energy constituted by the Government of India only around 8 per cent of the rural households of north-east are having adequate cattle population to instal a family type biogas plant. Therefore, it is assumed that about 3.2 lakh rural families can have family type biogas plants.

While setting up a biogas plant one has to keep in mind the suitability of site, requirement of gas and availability of raw material for biogas production.

Beside the livestock waste the region abounds in agro waste, forest waste and plants like water hyacinth which provide raw material for biogas production.

Total straw produced in the north east is 3731.6 thousand tonnes which is equivalent to 1492.6 thousand tonnes of oil equivalent. A major portion of straw is used for energy production. Unusable portion or the surplus can be used for energy production.

The crop residues are burnt for domestic purposes at a very low heat efficiency. Improved devices such as stoves and burners for burning such materials as domestic fuel and organised combustion of the crop residues to produce steam and power could give a much higher efficiency. The energy potential of paddy straw is considerable and it can provide substantial relief from constraints on lift irrigation. The economics of generating electricity in a thermal power system using paddy straw as fuel has been studied. The estimated cost of generation works out to Rs. 1.39/KW hours and Rs. 0.55 per KW hour for 30 and 100 KW plants respectively.

For tapping non-conventional energy sources available in the region dissemination of transfer of technology from technology clinics to rural areas need to be increased. At micro level due care need to be taken as the development of non-conventional energy sources requires subseqent repairing and maintenance. ☐☐☐

Animal power in Indian economy

Prof: N.S. Ramaswamy

In these days greater emphasis is on alternative sources of energy and the animal power is complementary to the petroleum based power says the author. The draught animal and meat sector are neglected and in deplorable condition. Productivity of these assets should be increased by providing technology and management inputs. This will in turn lift several millions above the poverty line says the auther.

THE INDUSTRIAL REVOLUTION THAT rocked England and the rest of the western world was the direct outcome of the discovery of steam power. Closely on the heels of steam power was discovered electricity which changed the entire face of the earth.

It is not a coincidence that both steam power and electricity found their primary application in transport. Industrial Revolution and the mass production of consumer goods hinged on fast and massive transport of raw materials and consumer goods

While industrialised nations consigned animal drawn transport to the limp of forgotten things along with the spinning wheel, developing countries could not afford the luxury The spinning wheel became the symbol of the Swadeshi Movement in India against foreign exploitation and annihilation of the handcrafts. Bullock cart remains the symptom of the pangs of growth of a developing country.

Two thousand million people in the Third World depend upon 400 million draught animals for ploughing and small scale transportation. The market value of the draught animals and associated infrastructure may be as much as 100 billion dollars. They make available 150 million horse power. Replacement of this by mechanised power may cost about 250 billion dollars and five billion dollar worth of petroleum every year. Whatever may be the progress of mechanised forms of transport, developing countries cannot do away with Draught Animal Power (DAP) in the foreseeable future.

Draught Animal Power (DAP) is complementary to petroleum, based power. In fact there is no real conflict between the two. As DAP is used largely by poor farmers and small traders there is an urgent need to modernise the system to make it more productive than it is now.

In India there are more than 50 million small and marginal farmers, with farm size of less than three hectares. Two-thirds of the rural energy for cultivation comes from Draught Animals. More than ten million marginal farmers do not own animals and are compelled to prepare their land by hand labour.

DAP is equally appropiate for hauling vehicles for small scale transportation (about one tonne), over short distances (below 20 kms.). The loading and unloading take time. Animal Drawn Vehicles are the most suitable and economical in such situations. Over rugged terrain, unpaved roads and narrow pathways, animal drawn vehicles are able to negotiate easily. Trucks become economical only for heavier loads of three to five tonnes and over distances of more than 200 kms

In cities Animal Drawn Vehicles are used solely for transportation of small loads and are found highly economical

Besides being a source of power, replacing non-renewable sources of energy, Draught Animals (DAs) make available dung for fuel and fertilizers. They also provide security and companionship to the farmers For millions of Indian farmers they are the prime sources of production. They give status and prestige to their owners and come in handy for borrowing During times of emergency animals are sold for cash.

India, like most of the developing countries, has a large non-organised Sector, whose contribution to national economy and potential for creation of employment are immense The advances in science and technology and growth of management inputs have not touched this sector. The result is low productivity and wastages of resources.

CARTMAN shows the way

CARTMAN (Centre for Action, Research and Technology for Man, Animal and Nature), a voluntary non-profit organisation, based in Bangalore attempts to bring the attention of the authorities, decision makers and opinion leaders in India to this problem and evolve Appropriate technology to suit the Non-organised Sector.

Agriculture is the largest production base in India. Except a few rich farmers and large landholders, the Indian farmers are non-organised. Next to land, livestock is the major asset in rural India.

A research study reveals that the total market value of livestock in India, (Cattle, buffaloes, goats and sheep, pigs and poultry birds) is estimated at Rs. 54,000 crores (approx. 30,000 million US Dollars). The annual output of this sector in terms of milk, meat, manure, hides and skins and slaughter by-products is also Rs. 45,000 crores per cent of milk sector which is covered by the National Dairy Development Board and Operation Flood Schemes, the entire livestock sector in India is neglected.

Bullock cart is not only the mascot of Indian Rural economy, but also its very backbone. Eighty four million draught animals supply the equivalent of 40 million horse power, providing energy to cultivate 100 million hectares and for hauling about 30,000 million tonne kms. of freight in 15 million carts. These work animals save six millions tonnes of petroleum a year, valued at Rs. 24,000 million at imported prices.

The importance of DAP and the urgency of the need to modernise the system has been underlined by the energy crisis. An upgraded system will lead to increased employment and income for millions of farmers. It will bridge the gaps in the energy requirements in the rural sector which cannot be met by conventional farms energy.

India has 15 million Animal Drawn Vehicles (ADVs) and two-thirds of rural transportation is carried out by them. While efforts to mechanise should continue, the existing technological level of the DAP system has to be upgraded. Otherwise the productivity of operations will be less and the poor farmers and small traders will not have enough surplus.

Work on animal drawn vehicles

CARTMAN by bringing appropriate technology for the modernisation of the bullock cart, has shown the way to gererate more jobs and earnings in rural and semi urban sectors, enlarge the nation's transport capability, increase the life span of animals and reduce their sufferings. In India as rural and urban economies have to co-exist, bullock carts will continue to be complementary to energised fast transport.

CARTMAN studied the ancient bullock cart and the reasons for its unproductivity and the strain it places on aniamls. Based on wide research, it evolved two-wheeler, three-wheeler and four-wheeler bullock carts. In the two-wheeler itself, light, medium and heavy carts were developed.

The models were put to use and possible improvements conceptualised Prototypes, made after field research, were tested in laboratory conditions for draught efficiency, loading capacity, neck load and other factors

Rural customers hesitate to take to new models. Therefore, CARTMAN hired men and made them use these vehicles on their normal routine carting Their reactions were studied, defects were rectified and improvements incorporated. In four-wheel carts the vertical load that falls on the neck of the animal, as in the two-wheeler, is eliminated. But the 'drag' is more in four-wheelers than in two-wheelers. Four wheelers are useful only in cities where level reads exist. The cost of the vehicle is more due to two pairs of tyres and two axles.

Three-wheel carts were developed with two tyres in the back and one in the front. In the three-wheelers a tendency to lift was found in the front where one tyre is used. This model has not become popular.

CARTMAN carts are of light weight, made with steel. The weight ranges between 180 to 200 kgs. A single animal cart can carry a load of one tonne. This has become popular in cities. The medium weight cart of CARTMAN weighs around 200 to 225 kgs. This is also popular. The heavy cart of CARTMAN weight between 200 and 275 kgs. These heavy vehicles are used to transport sugarcane

CARTMAN has developed an aluminium cart. The weight of the cart is 166 kgs. including the tyres. It can carry a load of 1.2 tonnes. However, this model is one and half times costlier than the steel cart.

CARTMAN developed a garbage removal van for Madras City Coporation. The body is made of steel and the tyres are of solid rubber. The weight of the wheel is 45 kgs. as against the traditional wheel weighing 150 kgs These models are popular and used in Madras city The city Corporation proposes to replace its entire fleet of bullock carts for garbage clearance with this model

CARTMAN has developed a cart with low centre of gravity This type is useful in places where level roads exist This cart is also used for garbage clearance

The CARTMAN type animal drawn vehicles have become popular in several districts of Tamil Nadu.

Means to create rural jobs

Any massive rural employment programme like the Jawahar Rozgar Yojana, to be effective and to extend the benefits to a large number of beneficiaries should be based on highly-labour intensive projects. Livestock and adjunct equipment like ploughs and carts are the major instruments of production in rural areas The only segments of the livestock which has received technological and management inputs so far is ten per cent of the milk sector, under the National Dairy Development Board programmes. The draught animal and meat sectors are neglected and consequently in deplorable condition. Productivity of these assets should be increased by providing technology and management inputs.

Creating employment during the off-season should be the strategy for increasing the earnings of the rural people This will in turn lift several millions above the povety line.

Providing improved carts, for instance of the CARTMAN design, with credit and subsidy will help the rural millions. Such carts can be used in villages and peripheries of urban centres for professional carting on hire. Rural based work animals, bullocks and buffaloes,

are idle for 200 days, in a year. If carting work can be created for 100 days, Rs. 3000 to Rs. 5000, can be earned by a single cart in a year. The idle animals which are now a burden on the farmers will become productive along with the landless labour who could be professional carters on hire.

The milk cooperatives under NDDB and the fertiliser cooperatives under IFFCO have the necessary infrastructure. The programme of deploying bullock carts can be implemented straight away through them.

Bullock carts with steel parts, instead of wooden ones, would save scarce wood and green forests. This would also increase the percentage of rural consumption of steel which Steel Authority of India Ltd., is keen to achieve. Spread of steel to rural areas will accelerate economic development. NDDB and IFFCO can be the delivery and monitoring agents for providing technology to milk and work cattle, as well as for ploughs and carts.

Community or cooperative bio-gas plants can be another activity of these cooperatives. These will help generation of cheep power at controlled locations and will aid small industries employing large numbers of people.

Even female buffaloes can be put to work by using piece yoke system. There are 70 million work animals and 12 million carts in rural areas. The target forsuch improved carts on hire can be one million in the first stage. Investment required for this scheme will be about Rs. 1000 crores. Off this suggested investment, Rs. 200 crores can be provided as subsidy under Jawahar Rozgar Yojana.

Potential increase in the earnings of the rural poor will be Rs. 400 crores a year. There will be corresponding saving of petroleum and wood and reduced damage to roads. Bullock-driven carriages can be deployed as a form of shared coach or omnibus for passengers in rural parts for short distances where no motorable roads exist. ■■■

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(Contd. from page 6)

technoeconomic studies have been taken up for evaluating technological options for power generation from biomass wastes and agro-residues.

Wind energy

Wind is free and non polluting energy source. A preliminary estimate of wind resource potential in the country indicates that over 20,000 MW of power generation can be harnessed from this source. Prospects are considered to be good for the exploitation of wind energy as a cost effective alternative to conventional sources of electric power and to diesel pumpsets for drawing water.

A recent study by the World Bank and U.S. Department of Energy estimated that India ranks very high among 29 developing countries where wind has more promising role than elsewhere. The capacity of 5 wind farms in the country has been raised to 4.40 MW which generated and fed more than 90 lakh units of electricity to the respective state grids upto the end of February in 1988. Further expansion of the wind farms will establish 9.40 MW capacity by about 1989.

At present 6 wind power projects with an aggregate capacity of nearly 6 MW are working in Gujarat, Maharashtra, Tamil Nadu and Orissa. A pilot project for installing 6 generators of 90 KW capacity at six different locations in India is under implementation. Besides, over 2000 wind pumps for drawing water have been installed. Most of the wind mills pump around 10,000 litres of water a day over a head of 6 meters at wind speed of 10 to 12 kilometers an hour. About 40 wind monitoring projects have been taken up in Gujarat, Orissa, Maharashtra, Tamil Nadu, Andhra Pradesh and Rajasthan.

Investment and achievement

What is particularly noteworthy is that it has been assessed that against a total central investment of Rs. 338 crore in the last four years on the renewable and non-conventional energy sector such as family size biogas plants, improved chulha, solar thermal photovoltaic and wind energy, savings in fuel and organic manure are to the order of Rs. 340 crore equivalent per year. Further these programmes also generated employment of about 450 lakh mandays. The likely saving of energy from solar thermal systems would be of the order of 200 million Kwh heat equivalent per year. In addition nine million units of electricity were fed to the respective state grids by the wind farms and 13 lakh units of electricity are estimated to be generated by the photovoltaic systems. Besides 2200 villages have been provided street lights and 12,000 villages have been rendered smokeless. The Department of Non-Conventional Energy Sources has pertinently prepared a perspective plan for the development of non-conventional energy sources in the country upto the year 2001. The plan envisages generation/saving of energy from non-conventional and renewable energy source to the extent of 250 million tonnes of coal replacement per annum by the year 2001 including 15,000 MW of electric power in gradually ascending order from now. The department is optimistic with the given funds and needed back-ups through well conceived policy measures and these programmes are quite feasible due to the development of technologies and infrastructure that have supervened and small gestation periods to instil non-conventional energy systems. This analysis shows that there is a phenomenal change in exploitation of non-conventional energy resources.

Conclusion

Based on the close scrutiny and evaluation of various conventional and non-conventional sources of energy, it is concluded that solar energy, biogas, biomass and wind energy will make a major contribution to the future power requirment. ■■■

Pollution by Thermal power stations

Dr. Subodh K. Gupta

Organic fuel burnt at thermal power stations contains harmful impurities which are injected into the environment as gaseous and solid components of oombustion products and adversely affect the atmosphere, says the author.

PROTECTING THE ENVIRONMENT WHILE making efficient use of natural resources is the most pressing demand in the present stage of social development Developmental activities all over the world have widely altered the environmental quality at micro, macro and global levels Development is accopanined by some form of pollution which threatens not only animal and plant life but very existence of human race

There have been disasters of great dimensions such as leakage of leth al gases, poisoning of water by toxic chemicals, droughts, landslides, erosion, rapid silting of dams, mass scale death of trees, wild life, fishes etc. through ecological back-lashes due to unplanned developmental activities.

Organic fuel burned at thermal power stations contanins harmful impurities which are ejected into the environmnet as gaseous and solid components of combustion products and adversely affect the atmosphere and water and the whole biosphere The atmosphere is also contaminated by waste gases of various industrial plants, exhaust gases of transport vehicles, abuse of agricultural chemicals and other contamination sources which are due to Man's activities. We are assaulting the nature and are in conflict with it on account of exploitation (and not utilisation) of natural resources. There are people who believe that there is more money in distroying environment than in conserving it. Tomorrow is not their concern.

In India, by the turn of the century, about 70,000 MW of thremal power will be generated using high ash content coal. The environmental pollution due to thermal power generation will increase beyond acceptable limits unless stringent measures based on Environmental Protection Act, 1986 are strictly enforced.

District Mirzapur (U.P) and its contiguous parts of Mdhya Pradesh are among the Protection Act, 1986 are strictly enforçed

District Mirzapur (U.P) and its contiguous parts of Mdhya Pradesh are among the biggest power generanting and industrial rural stations in being set up at Singrauli, Vindhyachal, Rihand, Anpara, and Renusagar Besides, other major industrial units in the area are Hindalco and Kanoria Chemicals at Renukut, Vikas Industrial Gases, Dala and Churk Cement Factories and Obra Power Station The coal from Singrauli coal fields is extracted by open cast mining coupled with deforestation

The thermal power stations use thousands of tons of low quality (high ash content) coal per day These power stations and other industries have completely changed the nature and socio-economic order of the region The natural rocky hills are disappearing due to heavy quarrying Tall chimneys and gigantic machines emit a cloud of dust with fly ash and smoke containing high level of acid forming oxides of sulphur and toxic flucrides and huge quantity of highly toxic cement particles which find easy foothold on plant leaves and human lungs In fact the clean air, clean water, abundent fuel wood, fruit and timber trees, grazing lands have been deteriorated and the process of desertification has set in

A Fact Finding Committee, constituted by the Ministry of Energy, Government of India, in its report of 1987 clearly mentioned that the activities of these thermal power stations and other industries are involved in concurrent environmnetal degradation by bellowing thick smoke from the chimneys and generation of dust. These industries are causing water pollution significantly.

The products of complete burning of fuel in thermal power plants mainly consist of carbon dioxide, water

molecules, nitrogen, sulphur dioxide and so3 anhydride (sulphur trioxide) and ash. At high temperatures existing in the flame core of high power boilers, the nitrogen of fuel and air may partially be oxidized to form mitrogen oxides. Nitrogen dioxide dissociates in the presence of sunlight to nitric oxide and atomic oxygen. The latter combines with molecular oxygen to reform ozone (03). The concentration of ozone in polluted atmosphere often goes up 10 to 20 times the natural ozone level (0.02-0.03 ppm).

With incomplete combustion of fuel in furnaces, carbon monoxide hydrocarbons (CH^4 C^2H^4) etc. and some carcinogenic substances are additionally formed. Among many cancinogenic substances, of highest importance, as regards their intensity of action, are polycyclic aromatic hydrocarbons, in particular, benzapyrene. The highest quantity of benzapyrene is formed under the conditions when air is deficient and complete combustion cannot occur.

Nitrogen oxides, even in low concentrations, can irritate respiratory organs, destroy equipment and materials, and promote the formation of smog and impair visibility. Sulphur is present in solid fuels in three forms: as inclusions of pyrite FeS^2; sulphur in molecules of the organic mass of the fuel; and sulphate sulphur. Upon combustion of a fuel, almost all the sulphur contained in it passes to flue gases in the form of So^2 and So^3 oxides.

Pollutants in the effluents of thermal power stations and natural admixtures undergo complex processes of transformantions and reactions. Deposited on the ground, they are washed down by atmospheric precipitates and reach the soil and water basins.

The hot fuel gases can be effectively removed in a powerful upward flow through high stacks and ejected into the atmosphere at a substantial height where they will be mixed with higher layers of the atmosphere. Before ejecting the fuel gases and ash into the atmosphere, however, the modern state of gas-purifying techniques makes it possible to reduce appreciably the concentration of impurities in waste gases. Electrostatic precipitators are employed to ensure a high degree of gas cleaning. With any method of fuel and waste gas purification, however, a certain quantity of impurities remains in the effluent gases. If harmful impurities have been dispersed in the atmosphere to concentrations not exceeding the scientifically found norms, their presence in the atmosphere has practically no effect on the living nature.

Toxic substances both of natural and industrial (antropogenic) origin can produce deleterious effects on the whole complex of biosphere. The biosphere comprises of the atmospheric layer near the earth's surface and the upper layers of the soil and water basins. Though the natural sources of atmospheric pollution are sometimes more powerful than the antropogenic ones, the latter are of great importance, since they are responsible for atmospheric pollution in densely populated areas. The main contributor to atmospheric pollution is the combustion of mineral fuels, especially the thermal power plants. The relative contribution of a particular industry to atmospheric pollution may vary with the rate of growth of that industry.

The effect of effluents can be considered as local effect or as global effect i.e., the total effect on the biosphere in view of increasing rates of industrial development. Effluents from thermal power stations with high stacks may affect the surrounding territory which is taken to be 20-50 km in diameter. The pollutants present in flue gases have harmful effects on vegetation, animals, people, buildings and structures.

Large quantity of fly ash is deposited on leaves of the plants. This thick layer of ash checks photosynthesis and affects the growth and development of the plants adversely. The fly ash enters into the lungs and cause health hazards like asthma, bronchitis and tuberculosis.

Sulphur dioxide is the common gaseous air pollutant originated from the combustion of coal and petroleum. It does not remain in the gaseous state for long time and reacts with moisture to form sulphurous and sulphuric acids. These acids produce acid rainfall. Sulphuric acid corrodes marble structures and many of the buildings.

There are definite reports that vegetables are most esnsitive to the content of SO^2 gas in the atmosphere. The toxic effects of the gas are associated with deterioration of the surface of leaves due to destruction of their chlorophyll. Coniferous trees suffer more from SO^2. 0.23-0.32 mg/m³ concentration of the gas disturbs photosynthesis of pine trees is reduced with SO^2 concentration of 0.08-0.23 mg/m³. A long exposure of vegetables to NO^2 at concentrations below 2 mg/m³ can produce chlorosis and inhibit the growth.

Increasing levels of ozone in the lower atmospher not only produce irritaning smog but also cause destruction to crops. Ozone concentration at 0.05 ppm and above for a few hours causes injury to a varieties of plants including tomato, potato, mango, citrus fruits, peas, peanut, cucurbits, onion, green leaves, grapes, wheat, rice, cotton, rye and a large number of trees and shrubs.

Presence of other atmospheric pollutants also has synergistic or antagonistic effect on injury to plants. Synergistic effects of sulphur dioxide on ozone injury are observed in apple, tobacco, grape vine and pine trees. Presence of a virus may increase ozone injury. Losses due to ozone have been estimated in terms of reduction in yield by destruction of green tissues and by directly disfiguring the marketable portion of a plant.

As regards the harmful effects of atmospheric contaminants on people, sulphur dioxide gas and suspended particles are most associated with chronic non-specific diseases. The most essential among them are antherosclerosis and the related coronary and

degenerative cardiac diseases, chronic bronchitjes, exphysema and bronchial asthma. Many scientists in this field note that these exists what may be called the urban gradient, i.e. the injury to human health in urban areas is higher than that in rural ones.

Oxides of nitrogen, present in ecvironmental pollutants, produce a sharp irritation effect, especially on the mucous membrane of the eye. The pollutant penetrates deep into lungs and causes injury to the alweolar epithelium and bronchi Experimental results indicate that people living in No2 contaminatied areas suffer from reduced respiratory function, have a higher incidence of respiratory disease and exhibit certain changes in the peripheric blood. Nitrogen oxides also absorb the natural radiation both in the ultra-violet and visible region of the spectrum and thus reduce the transparency of the atmosphere and provoke the formation of photochemical mist or smog.

Carbon monoxide, another significant gaseous pollutant, combines with haemoglobin in human blood to form carboxy haemoglobin which impairs oxygen trahport. Nervous system, nausea and heart palpitation are also affected.

Oxygen is absorbed from the atmosphere for breathing of animals and for the burning of combustible organic matter. On the other hand, plants and trees absorb Co^2 for the formation of biomass and thus restore the concentration of oxygen. The antropogenic processes involving increased combustion of organic fuel can be a cause of a gradual decrease in the oxygen concentration in the atmosphere. A lowering of oxygen concentration to about 19% as against a normal of 21% in and around the thermal power township has been observed. It is supposed that a drop in the oxygen concentration even by a few per cent will have no harmful consequences for the biosphere. Thus the most urgent problem at present is to control the concentration of harmful pollutants within safe limits around local sources of pollution, rather than on the global level.

The quantity of dust entering the atmosphere due to natural processes is about 1000 mln t, and that due to antropogenic processes, about 150-200 mln t, per year Roughly 1000 mln t nitrogen as No^2 and NH^3 is also supplied by the natural processes. Antropogenic processes give only 60-70 mln per year mitrogen. Only for sulphur, the natural and antropogenic ejections are close to each other and are at a level of 100-150 mln t/year.

To control the atmospheric pollution, pollution norms for environmental factors in general and for the air in particular, should be established. These control norms should be adopted strictly The incidence of illness among the population should also be taken as the main criterion in the assessment of the harmful effects of atmospheric pollutants.

The standard of air quality is based on the maxium permissible (safe) concentration (MPC) for various toxic substances. The MPC of atmospheric pollutants are generally established in two indices: as either the highest single concentration (in 20 minutes) or the average daily concentration (in 24 hours). The latter is the principal index to prevent the unfavourable effect of pollutants, which may result from long exposure. In some countries the MPC (mg/m^3) of some typical contaminants present in effluents of thermal power stations at populated areas on average daily concentration basis are as folows: non-toxic dust-0.15, sulphurous anhydried -0.05, carbon monxide -1.00, nitrogen dioxide -0.085, soot (fly ash) -0.05, hydrogen sulphing -0.008, and benzapyrene -0.1 $ug/100m^3$. It is essential that the concentration of each of these pollutants should not be above these values both to industrial plants and thermal power station as regards air pollution control.

Thermal power stations and other industries are also great sources of waste water which affects the biocenosis (the community of living organisms) of complex natural ecological system of water basins These industries and thermal stations employ various schemes of water treatment before discharging the wastes into water bodies. But in most of the cases either the waste water is directly disposed into water basin or is not treated properly to ensure the properties and composition of water upto maximum permissible concentrations of harmful substances.

Cooling waters of thermal power stations carry an enormous amount of heat into water basins to have direct effect on the rate of chemical reactions and the rate of restoration of deficient oxygen. At higher temperatures, the rate of reproduction and growth of hydrobionts increases. Waste waters of water treatment plants contain various neutral salts, acids and alkalies which change the Ph index. This waste waters also carry unburned fuel, slime, coarse-disperse particles organic substances, iron and aluminium compounds, $Mg(OH)^2$ and $CaCo^3$ which raise the BOD (biochemical oxygen demand) and affect the PH index of the basin. This has serious consequences for the biocenosis due to accumulation and rotting of organic substances (anaerobic respiration) and for the quality of water.

Petroleum products (various oils, sulphurous fuel oil, kerosene etc.) present in waste waters of thermal power stations and practically any industrial enterprise can enter water basins in emulsified, colloidal or dissolved state. These products can cause serious harm to water basins by forming films on water surface and thus inhibiting natural aeration. ON the other hand, heavy products form bottom deposits, thus isolating the botom flora and fauna from the remaining portion of the basin. Besides, sulphurous fuel oils are detrimental for the spawning of valuable fish species even in slight concentrations (above 0.05-0.1 mg/kg). Their effects in water basins may be sensible for a long period.

In addition to the inorganic acids, organic compound and corrosion inhibitors used in washing procedures, waste waters also contain in large amounts some harmful substances, for instance, copper, zinc, fluorine, hydrazine etc. Heavy concentration of these

toxic substances may cause the death of hydrobionts, whereas lower concentrations change their metabolism, rate of growth, mutagenesis, reproductive capacity. Zooplanktons are extremely sensitive to toxic substances and perish even at low concentrations of contaminants; this has a definite effect on the whole biocenosis.

The ash formed on the combustion of solid fuels at thermal power stations is transported to ash dumps through dry and wet or hydraulic systems. In the latter system the ash is mixed with water to form pulp which is disposed to ash dumps. The ash contains a large number of inorganic compounds and minor quantities of toxic compounds of geranium, vanadium, arsenic, mercury, beryllium and fluorine which are of certain value for the national economy. Some carcinogenic substances can also form during fuel combustion and pass from ash to water. The ash dumps area is considered to be unsuitable for agricultural utilization for 7-12 years. In addition, explosive discharges can inflict damage to forestry, particularly by inhibiting plant growth and impairing the quality of commercial timber.

The quantity of impurities discharged into water basins can be diminished by decreasing the discharge of impurities and by purifying waste waters. It also requires enormous quantities of clean water for diluting liquid wastes to maximum permissible concentration of harmful impurities. Dry methods of ash storage should be employed in which ash and slag are pelletized and then stored on worthless soils or used as building materials.

The influence of pollutants in relation to the turnover of substances in the nature can be discussed briefly. It should be recognized that the ejected productes of hguman activity are not foreign for the surrounding nature, but participate in the turnover of the matter in the atmosphere, lithosphere and hydrosphere. For example, the atmosphere of the earth contains about 2000 billion tons of carbon as Co^2. According to the Worldwatch Institute fossil fuel combustion has contributed 150-190 billion tons from forest clearing. According to recent studies, deforestation adds 1-2.6 billion tons of carbon annually or between 20-50% as much as the burning of fossil fuels.

At present the concentration of carbon dioxide in the atmosphere is 340 ppm as compared to 315 ppm in 1958. Scientists now predict that atmospheric level of Co^2 will nearly double to 650 ppm by the year 2050.

Carbon dioxide serves a function essential to the earth's habitability. Like one way filter, it lets energy from the sun pass through it, but traps the longer wavelength radiation emitted back from the earth's surface This phenomenon, dubbed "the greenhouse effect" helps regulate the planet's temperature Scientists now estimate that rising levels of other gases such as chlorofluorocarbons (CFC), methane, nitrous oxides, and ozone also together contribute as much to the green house effect as does co2 alone.When the level of such gases rises they trap more heat near the ground leading to a corresponding increase in temperature. It is strongly believed that present atmospheric changes would increase the global temperature by 100c during the next few decades. This will help in melting glaciers and ice caps to raise sea level. Besides, as the earth warms the water in the oceans would also expand. US Environmental Protection Agency predicted a rise in sea level between 1.5 nd 2.2 m by 2100. Various species of animals and plants may also disappear because of altered seasons due to rise in temperature. Increased temperature could also increase the respiration rate of trees. When respiration outpaces photosynthesis, trees would release more Co^2. If this continues for a long period trees would stop growing and ultimately die.

According to some scientists, higher levels of Co^2 would enhance the growth of trees, causing them to remove more carbon from the atmosphere. But the climatic changes associated with the increase of Co^2 and fuel burning may counteract or reduce plant production.

With the above preamble the ecologically fragile environment and human health have created a sense of insecurity and uncertainty in the minds of masses. The question arises whether these are indeed the necessary costs that humanity must pay in order to generate the much needed electricity and other industrial products or there could have been the ways of avoiding the environmental degradation and how best could it now be possible to restore a healthy environment and maintain a sound ecological balance in future. □ □ □

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Reserved For Readers

Your August 15 Special Issue on 'Our Planning Experience' was never so timely. It emphasises science and technology which is going to be the core element in the Eighth Five Year Plan soon to be launched. Priced at Rs. 4 for 100 pages flat of reading material, even for students doing paper on Planning, it is affordable. For the first time, I noticed about twenty advertisements which will bring much needed revenues to sustain YOJANA, a magazine which I have been reading regularly since my college days, now over forty years. State Governments may also find YOJANA an important vehicle to advertise their wares-plan achievements. Please accept my congratulations on your fine performance.

(S.M. SHAH)

Green house effect

N.K. Arjunan

The heating effect exerted by the atmosphere upon the earth by absorbing and re-emitting long wave radiataion from the earth, will disturb the climate of the earth. This in turn will aggravate existing problems such as drought, desertification and soil erosion in some regions. This effect on earth has to be checked by reducing the amount of fossil fuel burnt, by filtering Co2 from the emissions of power stations and by disposing off the green house gases says the author.

THE GREEN HOUSE EFFECT, ONCE a subject of purely scientific enquiry, is rapidly emerging as an important public policy issue. A precise definition of green house effect is difficult but in simple terms, it is the heating effect exerted by the atmosphere upon the earth by virtue of the fact that the atmosphere absorbs, and re-emits long wave radiation from the earth which becomes warmer or cooler mainly because of the effect of sunlight. The earth absorbs most of the incoming solar radiation and convert it into long wave infra-red energy radiations. A part of the solar radiation is reflected by cloud, snow and ice back into space. It has been estimated that the earth's atmosphere permits 70-75% of the short wave radiation to reach the ground but allows only 5% of the upward moving long wave radiation to escape from the ground to space. As radiant energy rises from the earth's surface, it heats molecules of CO_2 and water vapour and other gases, setting them to vibrating. CO_2 and water vapour are transparent to incoming solar radiation but absorb and re-emit the infra-red radiation from the earth. The transparent glass roof and sides of the green house permits easy entrance of short wave solar energy but largely absorb the long wave radiation from the earth and delays its escape. A more universal illustration of the green house effect is provided by the super heating of the inside of a vehicle that occurs on a sunny day when the vehicle is parked in sun with its doors and windows closed.

Man making the globe a green house

Human activities are changing the character and composition of the atmosphere. The burning of fossil fuels like coal, oil, gasoline, etc., the destruction and denudation of tropical forest cover and the uncontrolled emission from industrial and agricultural operation result in the release of large quantities of 'Green house gases' into the atmosphere. These gases trap the long wave low energy radiation emitted from the earth's surface and raise the temperature globaly, leading to the possibility of a climate change of geological proportions occuring over time span as short as a single human life time.

Among the various 'green house gases', the best known is CO_2 with a concentration of about 344 parts per million by volume (0.034%) and the concentration of which is increasing at an annual rate of 0.4%. It is now well proved that CO_2 is responsible for half of the green-house effect. The important green house gases, their concentration and annual rate of increase are given in table.

Green house gases	Atmosphere concentration (ppb v/v)	Annual rate of increase (%)
Carbon dioxide	344,000	0.4
Methane	1,650	1.0
Nitrous oxide	304	0.25
Methyl Chloroform	0 13	7 0
Ozone	variable	—
CFC 11	0.23	5.0
CFC 12	0.4	5.0
Carbon tetrachloride	1.25	1.0
Carbonmonoxide	variable	0.2

Though the rate of annual increase of CO_2 is small, that of some others is fast. Analysis of the 37 year time series of emissions made by scientists working in the Oak Ridge National Laboratory reveals interesting trends of global and national emission levels. In 1950 the emissions were dominated by a small number of nations with the U.S. accounting for 42% of the global output. The U.S. was followed that year by the USSR, UK, FRG and France in that order, India was thirteenth in the hierarchy. When one examines the trends for

1986, it is noted that the U.S. and the Soviet Union have retained their ranks of 1 and 2. India has moved upto position seven. China has now taken the third place from the tenth position it held in 1950. Japan now occupies the fourth place instead of the ninth where it stood in 1950. The trend in Korea is also interesting. It held position 53 in 1950 but has moved rapidly over to the twentieth place in 1986.

If the present trend continues, a global warming by a few degrees centigrade will be inevitable before the middle of next century. CO_2 from the burning of fossil fuels is rapidly accumulating in the atmosphere. So also the gases like chloroflurocarbon (CFCs), which are far less abundant but equally devastating. CO_2, CFCs and other gases came almost entirely from a variety of man made sources like vehicles, exhausts, and industrial solvents. Only a modest amount derives from natural sources like microbes in the soil.

The green house problem results from these increase which are ultimately caused by the fact that the Earth is becoming more populated, and its industries more numerous and in some cases, more noxious. But there are also some unexplained factors at work.

The future of the Earth's climate depends on how much the concentrations of CO_2 and other trace gases are likely to increase in the future. It is said that the concentration of CO_2 have increased nearly 25% since industrialisation and they are expected to increase by a further 30% in the next 50 years. The main cause of this has undoubtedly been the burning of fossil fuels, during which the carbon in the fuel is oxidised to carbon dioxide and released to atmosphere The destruction of much forest land has also contributed to the rise, because when land is cleared for agriculture, the trees it once supported are usually burnt. Conversely, growing plants absorb CO_2 from the air and, through photosynthesis, fix the carbon in the tissues

Impacts green house effect

The green house effect will disturb the climate of the planet, changing such critical variables as rain-fall, wind, cloud cover, ocean currents and the extend of the polar icecaps The global impact of these changes could be very large Although the general direction and over all magnitude of the global impacts can be predicted today, the precise regional distribution of effect cannot.

Effects on climate

Climate change is now given the highest priority in the list of global environmental problem. Current theory suggests that if the concentration of carbondioxide reaches twice the pre-industrial level, the atmosphere will be committed to a warming of 1.5 to 4.5°C, relative to average pre-industrial temperature. A warming of this magnitude will directly affect many physical aspects of the earth's global system. Sea levels will rise world wide due to thermal expansion of the oceans and the melting of glaciers. It has been concluded that a warming of 1.5 to 4.5°C would cause a rise in global sea level of 40 to 120 centimeters Such a sea level rise would cause flooding in many low lying coastal areas, increase salt water intrusion into aquifers, innundate vital wet lands, and destroy commercially important spawning grounds. In addition, it would probably increase the frequency of storms, damage to lagoons, estuaries, and coral reefs.

It is said that the green house effect upon the climate will not be unifom everywhere. Warming at the poles is likely to be two to three times the global average, while warming in the tropics may be only 50 to 100 percent of the average. The increased warming at the poles will reduce the thermal gradient between the equator and the high latitude regions, decreasing the energy available to the "heat engine" that drives the global weather machine. As the thermal gradient is reduced, global patterns of wind and ocean currents, as well as timing and distribution of rainfall, will change.

The global hydrological cycle is expected to intensify by 5 to 10 percent if the world warms by 1.5 to 4.5 degree centigrade. Global rainfall will probably increase by an estimated 7-11% a year, but the timing and distribution of the regional rainfall is likely to change substantially. Temporate winters might be wetter and summer drier. The tropics would also become wetter but the sub tropics, already dry, could become drier still.

Impact on ecosystems

The most major change that would occur to ecosystem is that they would be shifted in space. In the high latitudes of the Northern hemisphere, for example, the northern forest limit would shift polewards. As already mentioned the rise in sea level due to the melting of polar caps and thermal expansion of ocean, would cause flooding in many low-lying coastal areas. Th result is that many fresh water ecosystems become saline and many species may migrate or be totally destroyed. This may also destroy coral reefs, the spawning grounds of fishes and other aquatic organisms. The increase in the frequency of tropical cyclones and other storms due to the increased surface temperature would cause stresses on tropical animals, the loss of substantial amounts of coral, and decreased biological diversity among marine organisms.

One of the least understood area is how a changing climate alters the mix of plants and animals that make up natural ecosystem Species that are most responsive to increased carbon dioxide levels or to warmer temperatures and higher rainfall, would tend to predominate over other species. This in turn would ingluence the animal populations that feed on the plant community.

Sea-level rises will affect the ecosystem differently. In Asia, a one meter sea-level rise could submerge all of the traditional mangroove areas along the Bright of Bangkok, possibly destroying fish ponds, shrimp ponds and salt pans

Social and economic impacts

The direct effect of green house warming will have many important economic consequences. A sea-level

rise could put the homes and lives of millions of people living in the deltas of the Ganges, the Nile, the Mekong, the Yangtze and the Mississippi river at risk. However summers will mean increased energy and water demand in many areas. Shifting patterns of rainfall may turn some traditional agricultural areas to dust, while new agricultural zones are opened up in other regions. If these changes occur quickly, the economic disruption and social dislocation they cause may multiply the damage costs substantially. Even if they occur over decades, the useful lives of many current and planned investments may be foreshortened.

One of the suggested beneficial change is that the increased concentration of carbon dioxide will increase plant production. There is one more argument that as atmosphere heats up, its capacity to hold water vapour will increase and this will accelerate the rain fall. As a result the water table will be raised so that more water will be available to plants and it will grow faster. Experiments have shown that plants raised in an atmosphere enriched in Co^2 grow bigger than normal. Their yields are increased and, because their transpiration rates are reduced, they used water more efficiently for plant growth. This has a marked effect on plants whose growth is normally limited by lack of water. By the year 2030, therefore, many crop yields are likely to increase, providing changes in temperature and rain fall do not produce large adverse effects

While increased yields might be beneficial in many areas, it is reasonable to imagine that they would be universally so. For example, in the United States, Japan and the European Economic Community, atleast the major agricultural problem is currently over-production. If increased yields are brought about artificially, the immediate effect would probably be to depress market prices further, increase surpluses, lower farming incomes and increase unemployment. Moreover faster growth, of course, is not restricted to useful plants, weeds may increase their growth by as much as, or even more, than domestic species.

However, the food quality of plants tends to deteriorate as CO^2 levels increase. Leaves become relatively richer in carbon and poorer in nitrogen. It has been shown that pests feeding off soyabean leaves have to consume more to gain their required nitrogen protein levels. This suggests that agricultural pests might be more damaging in carbon rich environment.

Climatic change could well exacerbate existing problems such as drought, desertification and soil erosion in some regions. It could alter the frequency of ecological hazards such as flood, storms, forest fire and the out breaks of pests and diseases. The occurence of warmer, wetter winters in temperate areas, for example, might well enable harmful pests to survive winters in far greater numbers than is currently the case.

The heating of the atmosphere will affect the rain fall, surface moisture and the prevailing hydrological balance. Apart from the annual effects on crop yields, such changes might alter the viability of present day planning. Water supply and electricity supply in the form of hydro-power depends on structures such as dams and reservoirs that normally have an expected useful life of atleast 40 years. Their design is based on the assumption that precipitation and evaporation rates remain unchanged throughout that period.

Remedies to the problem

Though several techniques are theoretically available for reducing the scale of the green house effect, there are only few possible solutions to this hazard. The following remedies can be taken.

1. The most obvious is to reduce the amount of fossil fuel burnt, either through energy conservation or by the introduction of alternative energy sources. Because fossil fuel emission contribute not only to the green house problem but to acid deposition, urban smog and stratosphere ozone depletion, proponents argue that green house control measures that reduce the use of fossil fuels can yield multiple benefits. Low-cost, efficient, liquid fuelled stoves are being developed to help reduce fuel wood demand.

2. It might also be possible to filter Co^2 from power station emissions, convert it to other chemical forms and dispose of it in places other than the atmosphere, such as oceans. Coal gasification technology raises the possibility that Co^2 could be stripped from coalderived syngas and stored or fixed chemically to prevent it from entering the atmosphere. Several studies have looked at the possibilties of disposing of Co^2 by pumping it deep into the ocean, injecting it into depleted natural gas reservoirs, or expanding its use in tertiary oil recovery. Although these options are all technologically feasible some analysts doubt whether they would be cost-effective in many locations

3. Recover the green house gases already in the atmosphere and dispose them of elsewhere. Co^2 which is already in the atmosphere could, in theory, be "mopped up" by planting more trees on the Earth which would convert Co^2 in the atmosphere to carbohydrate in tissues. But a very large area have to be planted annually to compensate for the current rate at which Co^2 is produced. Even if this were possible, the effects of the other green house gases would still change future climates. In this respect forests have their role. So reforestation programmes have been launched.

4. And finally, accept the changing climate and adapt to it. ■■■

> We wish to inform our readers that the issue on 'Industry' will be brought out during the Ist fortnight of October, 1989.
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> Editor

Political policies and Techno-economic Change

P.D. Vashist.

The political policies of a country have a direct bearing on the economic development and technological change. For bringing about a technological change, developing countries like India should avoid costly projects modelled on the lines of highly industrialised countries. This would make the developing countries virtual beggars in the long-run. Hence the political policies have to control and direct the technological change. For the purpose of political economy and technological change is to satisfy the wants of the people.

POLITICAL POLICIES OF A COUNTRY have a direct bearing on the economic development and technological change. Scientific inventions and innovations in their ultimate analysis, are instrumental in bringing about techno-economic changes. In its very essence technological change is a process of exogenous variables. Innovations and inventions which lead to technological change, do also, to a very large extent, depend on the consumers demand. At the same time, the politico-economic and bureaucratic considerations too play a very important role. Scientists and experts, hold the view that "science push" also gives rise to the preparation of a technological shelf as the innovations do stem from research. The view that technological changes emerge purely out of basic sciences, may not be wholly tenable. We can see that other factors e.g. demand, political, bureaucratic, social economic and attitudinal changes do also play a very vital role. The interaction of various factors help a country in evolving its 'technical paradigm' which becomes responsible for scientific innovations giving rise to the process of technological change leading to its economic upliftment. While talking of technological change, we cannot but help taking recourse to 'appropriate technology' which has become the order of the day and is gaining popularity both in the developed and developing countries.

Demand and technology go hand in hand which equally affect inventions and scientific innovations which is true through and across the time. The furture scientific improvements in any time, at times also act as a damper in the adoption of particular technology which may render the existing, infrastructure obsolete involving heavy costs and efforts. It can be clearly seen that demand and innovations go hand in hand which ultimately result into technological changes in the society.

Variations in the consumers' demand are also reflected through its timings and acceptance in accordance with the existing mores of the society. Technological change and transfer should act as a conceptual and methodical tool catering to the development of the society.

The popular demand is not always interested in the production and access to each and every technology e.g. sensitive informations involving defence and nuclear weapons may not be the everyday concern of the citizens of a country, but is otherwise sine-qua-non for the very survival of a nation. Similarly, a common man is least concerned with the technology, when it is at the research and trial stage. For a consumer, a technology becomes an economic activity only when he actually wants it for his use while it may have its own relative f The most major change that would occur to

Demand factor in the technological change is not always easily demonstrated, although the free market forces have their own role. Innovations and fruits of technology are not equally available at equivalent cost, to all the sectors. Facility and availability of infrastructural inputs like location, power, water, markets, transport, roads, sanitation and communication too play a very important role in the production and cost of technology. Similarly, the politico-economic decisions and planning processes not only relating to the main industries, but also to the development of ancillary units go a long way in the process of technological change.

The effectiveness of the credit delivery system overcoming the constraints and delays, can clearly pave the way for technological change in the removal of complex bureaucratic problems, red-tapism and

technological constraints. Inadequate credit supply, non-coordination between lending operations of credit agencies and development departments of the government, poor input supply and extension service too contribute to tardiness in the pace of technological change. Poor supply of inputs and extension services also result into negative cost benefit ratio.

A country like India which has been too much obsessed with the foreign life-style, especially the western culture, has spent millions of rupees in research and development, but has not made optimum use out of such a technological treasure, much of which by now might have even become obsolete, must carry out a fresh reappraisal and utilize the relevant technology base towards rural development increasing productivity and generating employment leading to reduction of wastage and untold drudgery. An effective delivery system for the dissemination of technological shelf should also be created. The existing framework and infrastructure should be further geared up and revitalized, so as to become sensitive to the demands and aspirations of both the producers and consumers aspiring for the fruits of science and technology.

Technological change is a complex socio-psycho-politico-economic process and everyone cannot automatically come under its fold In order to do this, the system of extension, dissemination and diffusion of the services has to be further strengthended and recast, by creating such suitable institutions and agencies. Impact of science and technology does not go by hunches or mere genius of the scientists and technologists Apprehensions about the public's reaction to a particular technology, also leads to uncertainties in the innovative activities Immitation and piracy of technology by the competitors is another factor which can be a great impediment in the process of technological change At times, even the fear that adoption of a crucial innovation may force, an existing product to become obsolete and go out of market may also affect the technological climate. The risk in the adoption of a technology may also arise for want of demand, lack of ancillary industry, unpredictability of demand, changes in marketing and distribution, possibilities of further breakthrough and above all political policies

Techno-economic conditions of a country and its level of investment too, play a very important role Personal factors, ingenuity and anxiety about imperfections in the initial stages of innovations, cannot but be ignored in the process of technological maturity. In the present jet set societies, taking into account awareness trust and purchasing power of the people cannot but help the technolgical environment. It is here that the financing institutions should classify the borrowers in different categories in the field of production, distribution, absorption and consumption, according to their borrowing abilities and provide them adequate and uninterrupted flow of credit with proper coordination and follow-up. Even a scientific and systematic method of techno-credit appraisal may be necessitated. The credit policy should be more scientific and practical, although it will also be governed by other geo-political-factors.

In the process of technological change, no one can deny the important part which the international pressures play. Developed countries are locked in the pursuit of their vested interests and are fighting a pitched battle for the sale and promotion of the technology to the less developed countries (LDC). More often than not the LDCs are baited by them in the name of alturism and taken for a ride in the name of transfer of technology which is extremely expensive, unsuitable impractical and unwieldy. Not only does this cause dichotomy and demonstration effect by dividing the society into the vain rich and struggling poor, but also it makes the importing country totally dependent in terms of raw material, spares and other inputs. Such high-flown technology createsd many other bottlenecks and is a drain on the scarce resources of the poor countries. In the guise of offering high technology, they push the developing nations into ~~debt traps~~ other vicious circles leading to stagnation of their economies which are already too weak to absorb the 'technological-shock'. The planning process of a country like India, should be such that vast and costly projects modelled on the lines of the highly industrialized countries should be avoided. These projects, apart from adding to the foreign debt-burden, also make large demands on water, high-grade fuel, electricity and land etc. Often too, they take longer to be completed and when completed produce only a fraction of their rated output and at a much higher price than planned. And then there are often further, consequences, poor governments become concerned at the failure of their projects involving technology and further, to add insult to the injury, the public at large gets disillusioned and frustrated In order to popularize and defend such technology the governments have to take recourse to certain monetary and fiscal measures in terms of subsidies and other price regulations which further eat into the vitals of their economy. Above all, the quantity of items produced is too inadequate to meet the requirements ot the people at large Ultimately, the governments instead of producing their own indigenous technology become importers of the same which goes against the policy of self-reliance and import substitutions what to speak of export promotion which only becomes a far cry. No country can afford such a technological change which should relegate it into economic stagnation. Important concomitants of science and technology for a poor country should be the formation of less capital-intensive projects involving maximization of the existing technological stand-points. More and more emphasis should be laid on upgradation and appropriateness of technology rather than romancing with the natural geneses and entering into the areas of sophistications in the realm of science and technology Normally, the economic system of the LDCs is too weak to contain 'science push' and they should restrict their approach to the building up of techno-economic infrastructure and base, with proper eye on the development of ancillaries International monoliths in

the game of science and technology are monopolistic in nature and their sole aim is to transfer and transplant such technology, as would make the developing countries virtual beggars in the long run.

Technological change is the by-product of industrialization. It finds its way, adoption, assimilation, absorption and service to the mankind through the process of technological transfer which can be hastened by taking it at the doorsteps of the consumers in the package form, in sufficient and substantive quantity. One odd experiment or innovation in a laboatory or institute does not mean that it will reach out to the users automatically by merely publicizing it through attractive magazines, tall claims, glittering in-augurations, television screens, colour news and high sounding slogans. In fact such a technology should be thoroughly tested, broad-based, demonstrated through pilot projects and then taken to the people at affordable costs, so as to quench their demands. Hollow gimmicks in the name of advancement of technology may satisfy the whims and egos of the scientists, bureaucracy and poltical masters around which they generally love to rally but will not produce the magic of technological transfer. The technological transfer should be carried out in gradual phases. It should be properly standardized and understood, before it is made universal. Bandwagon effect in the process of technology transfer may have rag to riches effect for some but it will not become the real subservient of the people. In the initial stages an innovation will be an imperfect entity, Its transfer will be full of problem bugs and teething troubles which will have to be ironed out Before making technological leapfrog the 'political will' has to mentally prepare its masses, so that they are successfully able to withstand the 'technological-shock'. In this effort the bureaucracy, commercial banks including the voluntary sector will have to play their positive roles. This will also involve the selection and transfer of right and appropriate technology, gradually spread out to the people matching up to their expectations and in line with their life style. Quality and utility aspets in the transfer and application of technology will find greater favour and credence with the people, a majority of which is illiterate and has low awareness and receptive capacity. After successful cultivation of a technology, its coverage should be extended to the entire area, far and wide. The task of technology transfer cannot ignore the human and personal factors, as part of an effective management technique. The people have to be inspired, directed and even led, so as to make the technolgical change an accepted way of life. In order to win their confidence, the scientific community, bureauerecy, politics,big industrial houses and multinational agencies have to work hand in hand.

Planning system always has an upper hand at the expense of the demand factors or free market forces in influencing the course of the technological change. The planning system has also, up its sleeves,the discretion of allocation of resources backing of government's power and availability of the official machinery on the strength of which, it can formulate an effective and perspective policy for the promotion of science and technology with clear focus and proper thrust. As opposed to the forces of demand, the planning system does not even have to face many competitive pressures and cyclical fluctuations. Besides, an effective planning process can absorb the monetary squeeze through big corporations. Not only this, the planning system has equally to nurture the unnorganized sector and not throw it to the winds, only to be done to death by the big and organized industries. It can also create its own 'data bank' and 'think bank'. It can muster a body of good ideas and doctrines with the help of the services of the official, private, voluntary and international sectors and create the commanding heights and climate conducive to the technological change.Political policies have to control and direct the technology, in such a way that it ultimately keys up to become a good servant rather than a bad master. Laxity in political will and rational policies will give birth to the new cohorts in technology who would degenerate the society into feudalism and class conflict by holding key to the fruits of "technology-production and distribution". Why should after all the consumers play a second fiddle to the expertise of the producers? Technological change after all, has social obligations and welfare orientations too.

Major policy issues must govern the patterns of alignment, rate, direction, size and magnitude of the innovating firms. There has to be a balance between the products and process of innovation. Mismatch in resource endowment and selection of technology has to be avoided. Techno-economic policy of the developing countries has to complement the labour rather than replace it. The science and technology, should aim at keeping the government departments on toes, so that they keep themselves abreast of the advancements in science and technology, not only at the national but also at the international levels, rather than sit content and run down one another. Another important policy issue may be at evolving a 'technological mix' which should be production-intensive, service-based and research-oriented.

Technology success or technology failure are the two ends of the same spectrum. The success of technological chance will depend upon its native resilience, ability to adjust and responsiveness to the needs and demands of the market forces and customers The purpose of the political economy and technological change is to satisfy the wants of the people and match upto the public preferences and aspiration. If having the right technology in the right place at the right time and at cheap price is the accepted goal of the political economy, then proper policy and planning in science and technology is also a must. Last but not the least, the process of technological change should be pliable and flexible, so as to readjust and reconcile itself to the march of time. It should also involve regular monitoring and evaluation system so as to make it fully effective and service-oriented. ■■■

Should luxury consumption be discouraged?

R.J. Venkateswaran

The production and consumption of luxury goods have provided a strong stimulus to economic growth and have contributed substantially to the creation of more employment. While taxing the so-called luxury goods, according to the author, care has to be undertaken to ensure that they do not become so costly as to be beyond the reach of the masses.

WHILE PRESENTING THE BUDGET FOR 1989-90, the Finance Minister, Mr. S.B. Chavan, said that one of the major objectives of tax policy was to curb conspicuous consumption. He observed: "We have always prided ourselves on being a nation with a high savings rate and our culture has always emphasised the virtues of simple living and frugality. Budgetary policy must reinforce these virtues of thrift both through positive incentives to stimulate savings and through measures to restrain luxury consumption".

The Finance Minister therefore raised the excise and customs duties on several categories of electronic goods and some other products which catered mainly to the needs of the affluent sections of the society. He pointed out that "Kit culture-based consumerism" was not consistent with the Government's industrial and trade policy and should be discouraged

Mr. Chavan also enhanced the rate of expenditure tax, as applicable to some hotels, from 10 per cent to 20 per cent. He clarified that he had taken these steps to check the consumption of luxury items especially of those which were import-intensive.

Mr. Chavan's predecessors in the Finance Ministry had also introduced several measures with the same objectives.

For example, Mr.Y.B. Chavan, in his budget for 1971-72, decided to bring several new items into the orbit of central excise, such as perfumed hair oil, shampoos, lipsticks, pressure cookers, playing cards, zip fasteners, photographic cameras, cinematographic projectors and linoleum.

Mr. Y.B. Chavan justified this taxation on the ground that "most of these commodities constituted the appurtenances of high living" and that excise duties on them had "little effect on the level of living of the overwhelming mass of the community". But the Government now seems determined to take more effective steps to check conspicuous consumption. The Planning Commission, in its approach paper to the eighth five-year plan, has also stressed on the need to impose stiffer taxes on such goods and to discourage their use.

What precisely is meant by conspicuous consumption?

This phrase was first used by a Canadian economist, John Rae (1796-1872) but it was incorporated into economic theory by Thorstein Veblen in 1879.

Accoding to the New Palgrave: A Dictionary of Economics, Volume I, published by Macmillan, "conspicuous consumption means the use of consumer goods in such a way as to create a display for the purpose of impressing others rather than for the satisfaction of normal consumer demand. It is consumption intended chiefly as an ostentatious display of wealth".

But, in all advanced countries, the levels of conspicuous consumption have been a spectacular increase in recent years and this trend will become more pronounced in the future with the further development of science and technology and the availability of more leisure with most people. The production and consumption of luxury goods have provided a strong stimulus to economic growth and have contributed substantially to the creation of more employment.

Mr. Elmer Leterman, one of the most successful businessmen of the USA, has said: "Luxuries are products sold on value, not price. The value, however, is in the mind of the individual customer He buys a luxury because its possession will add to his prestige, or will fulfill some dream he has always had, or will prove to some rival that he can afford it, or will enable his wife to match the bragging of other women, or will satisfy some exhibitionist tendency in himself or his family or will satisfy his vanity and pride in some other way".

In India in recent years a large number of industries have come up for producing goods which are mainly

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Foreign Exchange through Service Sector

Laxminarain Modi

The growth of Service Sector, namely, professional experties in science, technology, transport communication, tourism and so on, has been phenomenal. By using these avenues fully a nation can earn foreign exchange in a big way, which will offset the ever increasing external debt to a considerable extent.

ACCORDING TO GOVERNMENT FIGURES, the external debt on march 31, 1988 was Rs 36,670/- crores. Whereas according to the Institute of International Finace (IIF), India has become the "largest debtor" in Asia, as its total external debt is likely to be US$ 60 billion or Rs 90,000 crores by the end of 1988-89.

It seems, the prediction that India will soon fall into a debttrap, is round the corner The foreign exchange reserves have fallen significantly During the first 6 months between March and September reserves have come down from Rs. 7,287 crores to Rs. 5,460 crores In the coming months the foreign exchange situation may get worse

India's balance of payment (BOP) deficit which was Rs 2,852 crores in 1984-85, has shot up to about Rs 5,500 crores in 1987-88 and is expected to cross Rs 6,000 crores in 1988-89 The deficit has grown over the years mainly because "invisibles" have remained stagnant at about Rs 3,500 crores for over five years and the trade deficit has been rising rapidly since 1984-85

Despite large assistance from international financing agencies like the World Bank,Asian Development Bank and International Monetary Fund, the balance of payment position would continue to be a cause of serious concern, in view of bunching of debt servicing relating to IMF drawing, and their repayments in 1988-89.

To avoid the debt-trap and tide over the adverse balance of payments situation, a sustained and strong rate of growth of earnings through INVISIBLES is imperative.

As far as export of goods is concerned, there are many hurdles and limitations, which do not apply to Service sector, but unfortunately, there is no policy to encourage foreign exchange earnings through service sector.

Considering the new horizons of "trade in services", the term "services" includes - professional experties - in science, technology, legal, health, financial, insurance, banking, education, transport & communication, tourism, management disciplines to cultural artistic ralents and other services.

In recent years, the "role of services" in economic development and international trade has attracted a great deal of attention from policy makers in both developed and developing countries. The growing interest in services has been due to its great potential and expansion all over the world

Even in India the growth of service sector has been phenomenal Its share has increased from 15.1 to 39.9% in last 3 decades.

According to the UNCTAD Report, there exists a smaller number of developing countries that includes certain Asian countries, such as Singapore and the Republic of Korea, which have become competitive exporters, both of goods (particularly to the developed market-economy countries) and of services (especially to other developing countries), but a majority of developing countries is lagging behind in the area of export of services

The position of top 10 developing countries in Services in 1984 was as under

Rank	All services	Exports Value ($ billion)	Imports Value ($ billion)	Surplus Deficit
1.	Saudi Arabia	17.6	36.0	- 18.4
2.	Singapore	9.2	5 3	+ 3.9
3.	Mexico	8.3	17.4	- 9.1
4.	Republic of Korea	7.3	8.2	- 0 9
5.	Kuwait	6 7	4.5	+ 2.2
6.	Panama	4.8	4.0	+ 0.8
7.	India	3.7	4.8	- 1.1
8.	Egypt	3.5	4.2	- 0.7
9.	Yugoslavia	3.5	5.4	- 2 1
10	Brazil	3.3	16.4	- 13.1

It may be noted that India is net importer of services, with a deficit of $1 1 billion, which is rather disturbing, instead of having surplus in services.

According to the Report, there are many "unexplored opportunities" for developing trade in services in developing countries, thus making this sector a more dynamic element in the participation of these countries in the world econmy

India has high potential for earnings from services

Our country has several avenues in Service sector to earn foreign exchange. A few examples are given below

Education: Lot of foreign students could be attracted to come and learn a Sanskrit and Hindi b Vedic mathematics c. Astrological calculations for movements of stars d. Ayurvedic system of medicines e. Yunani system of medicines f Yoga, Naturopathy, Solar treatment g. Kaya Kalp to rejuvinate whole body h. Pranayam, Yogic exercises and meditation etc i. Fine arts, like dancing, singing, paintings on glass, ivory with natural colours.

It is needless to mention that the wealth of knowledge available in our scriptures is so enormous that it is difficult to find in any other country. The insight can be had only by learning Sanskrit

Again Vedic mathematics basic formulas are given in only 120 words, but its explanation makes good number of books. Formulas when applied properly are capable of checking calculations done by computers In absence of checking method, if there is any mistake in computing, no remedy is available.

Ayurvedic & Unani medicines are being increasingly recognised as system going with nature, hence having greater acceptability.

Many schools in Delhi and other places have special courses for children of foreigners and diplomats to train them in Indian singing and dancing, which have again potential of earning foreign exchange

The benefits of others are well known for attracting foreigners.

Health Care : Lot of people from India go abroad for treatment. Our Doctors are well qualified but some times, they lack in facilities of instrumentation. By equipping our hospitals to interational standards we can attract foreigners for treatment

Likewise if we create good facilities for treatment under Ayurvedic, Unani, and Naturopathy, we can get patients from other countries.

Yogashana also can treat many ailments, but there is hardly any proper facility or publicity

Insurance : In western countries, there are many reinsurance companies, who do not directly underwrite any business. They only take reinsurance business from all over the world and thereby earn foreign exchange.

This concept if extended and private sector being allowed to get into Reinsurance could earn good amount of foreign exchange. After paying claims, the net result is generally profit.

Agriculture : A realisation is coming to consumers that food products grown with Fertilisers and Pesticides are not good for health and as such even in USA, each and every grocery store has a separate section for food grown with ORGANIC MANURE and without Pesticides

Here again, we have technologies to make compost 3 times better than cowdung compost, which also restores micro nutrients and micro-organisms to soil.

Simlarly instead of Pesticides, we have preparations of Neem, which can effectivelly control pest.

So we can give consultancy on Technology and also export but in the absence of suitable policy and support, nothing is happening.

Fine arts & Festivals : Many of our artists can go abroad and give dance and music performances, to earn foreign exchange for the country. But there is no policy or support.

Recently Kite flying festivals were organised in Delhi and Ahmedabad in which many foreigners took part Likewise other festivals could be organised to attract foreigners and also revive our heritage

Consultancy : Many foreign companies engage professionals like Advocates, Accountants, Market Researchers, Financial Consultants and others for which payment could be received in foreign exchange.

Human resource export not by individuals but in terms of team for projects can earn better foreign exchange But there is no policy or support.

Conferences : Many Indian cities have excellent facilities for holding international conferences Sufficient experties is available to organise such conferences and meetings.While Hotel and Travel agents get benefit, organisers do not get any benefit, who are primarily responsible to get them.

Some policy on support and fiscal benefits to Associations, Voluntary organisations are also called for

Other Services : There are other types of services which are in great demand, of which following are few examples :

1 Many foreign companies have appointed their buying agents, in India, for giving information on commodities, their prices, quality etc. and also to arrange procurements on their behalf, involving quality control inspections, timely shipments etc. Such Indian buying agents could receive their commission in free foreign exchange.

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Jawahar Port— a trend setter

M.D. Pakrasi

THE JAWAHAR PORT (earlier known as the Nhava Sheva Port), symbalizes the country's quest for modernization and boosting productivity. The port built at a cost of about 880 crore rupees with World Bank assistance, is the latest in the string of eleven major ports, with six in the west and the rest in the east coasts. The port is located on the mainland, about 10 kilometers off Bombay over looking the Elephanta Caves. It has a common water channel with Bombay port and has a perennial water depth of about 10 to 15 metres

One may well wonder the need for spending a colossal sum as this when the leading port of Bombay so near at hand and the purpose served by creating a few facilities to it to cater to the rising need of cargo handling. Expansion of the Bombay port is out of the question because the cargo congesion has almost reached the point of saturation With berthing facilities creating an obvious problem ships have to wait for their turn on the sea which no liner would like to take happily Other problems like lack of adequate storage facility for the dry cargo and lack of adequate equipment for handling latest container vessels also surface. Perhaps, the question of expanding the facilities of the Bombay port without impinging on the strategic requirements of the naval dock yard close by, also had a bearing in selecting a new site. Another important consideration was the emerging shift towards containerization from bulk cargo ships with marked advantages in favour of the former Hence there was no escape from the obvious choice from going in for a new port The stress, right from the beginning, was that it would be a specialised port in handling container traffic.

unique features

The Jawahar port has many unique features It has been constructed from scratch, whereas other ports of the country have been evolved either through expansion or modernization over years From the very beginning it was decided to peg down the manning on the consideration of productivity. Whereas, employment in any major port of the country run into thousands–Bombay about 31,000, Calcutta about 25,000 Madras about 11,500 and Vishakhapatnam about 11 000— the maximum work force envisaged in this port is 1040 in the first phase and ultimately 1500. This is mainly due to a very high degree of mechanization and computerization taking the place of labour and clerical staff. Computers have also reduced the paper work to the minimum thereby also reducing the red tape Whereas one container is handled by two persons at the Nhava Sheva, the same cargo is handled by 59 persons at Bombay port. No wonder, it is also the intention of the Government to develop the much sought after work culture at the Nhava Sheva, as also to set it as model. The persuit of modern management is evident from the fact the port authority has shron its fat by distributing the avoidable work load. While, private entreprenure will be on their heels to out bid one another and thereby take care of quality of work and speed of execution, the port authority will concentrate on the main job of handling cargo, overall supervision and future planning and growth. For example, the railways will take care of yard facilities, container and packaged cargo etc. The fully automated computer controlled bag wagon loading shed, for instance, can load two jumbo rakes totalling about 14,000 tonnes a day. The dredging work has been assigned to a specialised agency. The Central Warehousing Corporation takes care of the sprawling and scientifically built container stations with mechanical facilities for the incoming and off-going containers. On an average, the container freight station can handle 250 containers a day. Then there is the question of building a modern township with its paraphernalia An independent custom house has been set up and seperate collector of customs appointed to speed up clearance.

For the first time a composite labour concept has been introduced which broadly implies that workers will be trained in multiple vocations. The aim is to utilise their skills according to need of the hour. The accountability will be to a manager and adequate incentives for raising productivity

Work at the Jawahar Port started in April 1986. It is spread over about 2, 500 hectares and has adequate provision for expansion in future Its planning, designing, supervision and construction was entrusted to a Canadian firm, Howe, which has an office in New Delhi. The design was made in India largely by Indian engineers, with technology transfer from its parent company in Canada. More than 20,000 engineering drawings were required.

The port has 6 berths, 3 for handling containers and two for bulk dry cargo, like fertilisers and their inputs and foodgrains. The rest is a service berth. The

bulk terminal can cater to ships upto 80,000 tonnes. It has mechanised scooping devices, much like the conventional persian wheel which empties its wares on a very lone conveyer belt and ending up either at storages of individual package filling points ready for out-word transmission on trucks When fully operational, this computer controlled facility will have the highest handling rate achieved so far in the country

The computer terminal which is claimed to be one of the best in the world, has 3 berths There is a container stack yard in the port complex itself and a sprawling freight station shed about ten kilometres away. The stacking is so scientific that even a single container can be literally located from a haystack of containers. The overall port operations are under the control of the port managamènt computer which links all the individual sub systems into an integrated system This system developed by the Canadian firm is considred as the most advanced of its kind in the world today It is projected that the port will handle about 4 million tonnes of cargo by the end of the year & over 6 million tonnes after 3 years. By the turn of the century, it will handle 11 million tonnes.

One of the main reasons for no slip-up in the target date of completion of the port is that work was subdivided into 20 major contracts. As the bidding was on global contract basis, some of the best companies were involved in the construction. They represented Netherlands, Japan, South Korea, West Germany and Finland The other important job of Central Computer System was entrusted to the Computer Maintenance Corporation of India The Container freight station, port building, township and navigational aids were contracted out to Indian companies.

funding

The spillover in cost which is a whopping Rs 375 crores (Original cost being Rs 505 crore and the current estimate Rs. 880 crores) is explained as marked upward revision of foreign currencies vis-a-vis the rupee coupled with a hike in customs duty

In the funding programme, Bombay Port Trust and the World Bank roughly dished out 660 crore rupees, with almost 50:50 sharing. Sandi fund for development accounted for about 50 crores and aid from the Netherlands government were the other major sources.

A High degree of mechanisation has brought down the cost of handling container cargo to a significant extent. For example, cost of handling a container (I Teu-Twenty equivalent unit) in JAWAHARPORT is Rs 3,875 and the same in Bombay port is Rs. 5,800 According to a senior port official of Nhava Sheva port. No doubt it will increase competition between the two ports, but there is no cause for alarm as currently three fourth of the cargo in Bombay port totalling about 27 million tonnes, consists of POL (Petroleum Oil Lubricants), which Jawahar port can not handle in any case. The real competition is with ports of West Asia and Singapore, which also enjoy advantages in respect of location. In the port complex, there are two storages, each having capacity of storing 80,000 tonnes of phosphatic fertilisers, 1,15,000 tonnes Murate of potash and 90,000 tonnes of rock phosphate. The other two can store 1,40,000 tonnes of sulphur and 52,000 tonnes of foodgrains.

One very interesting area of Jawahar port and quite difficult to ignore is the attention given on maintaining the ecological balance of the area. Two crore rupees have been spent on setting up nine monitoring stations which will tally the base recordings of marine, air and noise pollution and check any distortions caused by activities in and around the port. Anti-pollution steps have been taken ever an area of 16 sq kms Interestingly, a provision was incorporated in contract itself which made it obligatory for any contractor, foreign or Indian, to provide a green cover to areas subject to felling of trees or change in ecology. Two lakh saplings and mangroves have been grown around suiting the natural sorrounding.

The other point of significance is the rehabititation work of the persons affected by development of the project In addition to normal compensation, 250 project affected persons are being trained in different vocations for absorption in technical, clerical and other cadres

The possibility opened up by the Jawahar port is enormous. There is a vast scope for vertical and lateral transmission of skills generated in the handling of various operations of the port Growth of small trade and enterprises, develpment of transport, and various down stream industries. Thus, this port had opened a new chapter It is an experiment in the application of high tech equipment and managerial skill. It is also a model for other ports. In short, it is a trend setter There is no doubt a great stake involved in its proper management and development ■■■

BOOK REVIEW

Sick Industries & BIFR by H.P.S. Pahwa, published by Bharat Law House Pvt. Ltd., New Delhi, PP. 440, Price Rs. 150

The Problem of industrial sickness is one of the most talked about topics today. The magnitude of industrial sickness has grown out of proportions. As at the end of June, 1986, there were over one lakh thirty thousand sick industrial units both in the large & medium and small sectors The problem of industrial sickness and the need to take steps for the revival of such units have been engaging the attention of the Government, planners and the financial institutions alike, for quite some time. Accordingly, the Board for Industrial and Financial Recontruction (BIFR) was set up by the Government, under the Sick Industrial Companies (Special Provisions) Act (SICA), 1985, with a view to rehabilitate the economically viable sick industrial units and for the treatment of industrial sickness. The BIFR become operational on 15th May, 1987. The Board has been given wide-ranging powers in respect of approval of rehabilitation packages for sick industrial companies (including their restructuring and revival) The decision of the BIFR is binding on all concerned

In this context, the present book is a very timely attempt by its author, who has tried to unfold and explain in detail the implications of the various provisions of the Act, and the working of the BIFR in a comprehensive and logical manner The book is divided into four parts, each containing a number of chapters and Annexures. The Part-I, consisting of 4 Chapters and 19 Annexures, is devoted to a thread-bare analysis of the SICA and BIFR. The Part-II consists of 3 Annexures and gives the methodology for making references to the BIFR, and the details of the procedures under the Act. The functions of the operating agencies and the guidelines for preparation of the rehabilitation schemes and packages is set out in the Part-III The Fourth Part, consisting of 20 Chapters and 38 Annexures, gives a detailed account of the various modernisation/rehabilitation/expansion (soft loan) schemes as offered by the IFCI, IDBI and ICICI, which include the Soft Loan Scheme for Modernisation, Textile Modernisation Fund Scheme, Sugar Development Fund Scheme, Jute Modernisation Fund, Technical Development Fund, Bills Rediscounting Scheme, Suppliers Line of Credit (IFCI/IDBI), Equipment Finance Scheme (IFCI), Equipment Finance Scheme for import of Capital Goods (IDBI); and Lease Financing, which are dealt with in quite detail

The book provides a wide coverage of the subject and represents a technical work of high calibre It will serve as a reference book for treatment of industrial sickness, and would be extremly useful to the corporate sector and the industry as a whole, planners, researchers, managers, charted accountants, company secretaries, legal practioners, and all others who may be required to deal with industrial sickness in some way or the other. The book is very reasonably priced and should be an asset, to the individual users and the various libraries.

Dr. Mahendra K. Pandey

INDIAN POLITY —RETROSPECT AND PROSPECT. ED. Subhash C. Kashyap. National Publishing House, New Delhi. 1989. PP. 203. Price Rs. 200.

The book under review is a collection of edited version of papers presented at a seminar held by the Allahabad University Alumni Association. Divided in four sections—Introduction, Economic Dimensions, Social and Cultural Dimensions and Political Dimensions—the papers presented by noted intellectuals, academics, top administrators and politicians make in-depth analyses of many questions and doubts about the whole gamut of the present system and seek to find answers to some nagging problems faced by the Indian polity. As the flap says the papers indeed throw up some useful ideas and offer several suggestions—some very radical and some not so very radical Some examples are given in capsule.

Govind Narain, one of the top administrators of the country virtually explodes a bomb in his paper, 'The malaise of the system—Causes and Cure' when he questions the very character of our democracy, "Is it a democratic process?" and himself answers with an emphatic "No" He is devastatingly candid in elaborating his contention further: "there is imposition of people from the top. The electorate have to vote for x or y or z, all selected by nomination fron the top. (They) are not answerable to the people, they are answerable to the top which nominates them. If they are not answerable to the people, where is people's voice and where is democracy? . . The means employed in winning elections also cause worry. We are told that there are linkages between some of the so-called elected leaders and the underworld people of black marketeers, drug-peddlars, criminals, etc, This again has a terrible influence on the whole system of administration" However, Govind Narain does not present any concrete suggestions to clean the murky scenario depicted by him except expressing pious hope that intellectuals should raise their voice and mobilise people to make them understand what democracy actually is and what it should be.

K.C. Pant's warning in his introductory paper about the growth of chauvinistic regional forces which are coming up in State after State is indeed a point to be noted in all seriousness. However, one is inclined not to be too worried on this score as the recent events have proved that regional forces need not necessarily be parochial and chauvinistic. Many a State Government run by the regional parties have proved that they are neither parochial nor chauvinistic and much more responsive to regional aspiration than a centralised party. These governments in fact have bolstered the federal structure of our democratic system by acting as check against any political authoritarianism.

Section two of the volume—"Economic Dimensions"—is probably the best representative section. Unfortunately one finds the paper 'Planning Process' by J.S. Baijal who till recently was the Secretary of the Planning Commission, somewhat perfunctory, at best, an extended official note. Space permitting one can go on writing longish critique on each of the paper. Indeed this is a very valuable document and a well-edited one Much of the credit for this book should go to the editor who besides doing his job as an editor excellently has also contributed a worthy paper 'Indian Polity-Representative Parliamentary Democracy' (pp 135-166). One hopes that this volume should be the forerunner of a more exhaustive national debate on the subject.

—P. GHOSH DASTIDAR

'MAJOR CROP PRODUCTION CONSTRAINTS AND THEIR REMEDIAL MEASURES FOR DIFFERENT AGROCLIMATIC ZONES OF INDIA' BY S/Shri K.N. Singh, H.C. Bhattacharyya, B.N. Misra and I.P.S. Ahlawat, Division of Agronomy, Indian Agricultural Research Institute, New Delhi - 110012.

After three successive years of drought which the country faced in the recent past, the foodgrain production has again started looking up and in order to raise the foodgrain production to a reasonable level Special Foodgrain Production Programme was launched during the year 1987-88 The results of the special action taken during that year have amply shown that the farmers have adequate resolve and will to raise foodgrain production to reasonable levels.The present book is an attempt to highlight the constraints which the farmers face in production of their crops in different agroclimatic zones of the country and have suggested remedial measures for each of the constraints. For the purpose of analysis,each major State has been divided into different agroclimatic zones based upon the National Agricultural Research Project of the I.C.A.R. These agroclimatic zones are different than the 15 agroclimatic zones of the country as suggested by the Planning Commission for the purpose of regional planning. In the present study, each single State has been divided into various crop zones based upon the agroclimatic conditions, crop production and other agronomical factors The description of each State into different agroclimatic zones as well as the constraints of the crops raised in that State has been the subject matter of different chapters. The constraints as well as the remedial measures for each agroclimatic zones of the State has been suitably presented in a tabular form. The remedial measure presented gives a very detailed review of the method to be taken in order to remove the constraints hampering agricultural production.

The experience and background of the authors have been helpful in very suitably presenting the detailed analysis of the factors hampering the crop production and the authors have come out with appropriate solutions to remove these constraints. The details of the researches done under the various research projects/schemes of the ICAR are a very well utilised in the preparation of this book. This book would be of immense help to extenstion workers as well as to the other officers working in the field for solving their immediate field problems regarding crop productin in different States. A book of this type was long overdue and the authors have to be commended for bringing out such a nice publication at a time when it can be of immense help to the planners, administrators, research and development agencies who would like to analyse the production constraints at micro level and develop/recommend appropriate location-specific production technology. It would also be appropriate if a concised form of this book is also made available in different regional languages so that the farmers and other workers in the field in different regions may utilise it appropriately. This job can be easily handled by the Indian Council of Agricutural Research as they have adequate facility for this purpose at their disposal

—M.P.GUPTA

'COST REDUCTION — A DISTINCT POSSIBILITY' by Dr. Kiran Chopra—Published by Amar Prakashan A-one/139-B Lawrence road, Delhi - 110 035. Pages 128, Price Rs. 100/-

'Costing' is one area of study that has been a powerful tool of management and control in manufaturing units. In recent times, its application has transcended the limits of the manufacturing sector and has spread to other areas like hospitals, hotels and transport sevices.

Several proponents of the philosophy of costing have attempted to focus attention on application of costing on specific fields. As such, a sizeable literature exists on the subject. Hence the work of Dr. Kiran Chopra entitled 'Cost Reduction—A Distinct Possibility' is not, as the author says, a 'maiden attempt' to establish the wide-ranging applicability of the subject.

In the author's words the book 'is an attempt to introduce some possible strategies for cost measurement, control and reduction in different industries such as the hospital industry, the computer using industry, the construction industry and the

defence industry' but the treatment of the subject, as reflected in introduction of concepts or in analysis, is very insipid and lacks depth In fact, there are places where the reader is confused.

The first chapter is introductory in nature However, it is an injudicious mix-up of rudimentary and advanced concepts A portion of the chapter deals with the basics such as cost assignments.Here again three methods of cost assignment have been mentioned viz., allocation apportionment and proration, of which the last is redundant as it is not different from 'apportionment'. Concepts like 'standard costs' and 'sunk costs' have been brought in abruptly.

The second chapter deals with application of costing in what the author calls the 'computer using industry' The chapter is divided into several sections under catchy sub-heading such as 'purchasing Vs Leasing' and Breakeven analysis', but each section is a riddle in its own right. Several formulae have been furnished for calculation of the breakeven point under different cases such as 'purchasing' and 'leasing' but the rationale of the formulae is totally lost upon the reader. Moreover, these formulae contain unexplained terms like 'investment tax credit', 'full tax credit' and 'pre-tax credit'. But the most ridiculous part of the discussion is that at a particular juncture, the author says, 'here the breakeven point would be 'u' as compared to 'z' in the case of lease VS purchase decision'. The preceeding discussions make no mention of any 'u' or 'z' The 'u' or 'z', for all the reader knows, may be anything he may venture to guess.

Other chapters on 'hospital cost controls', 'defence cost analysis' and 'housing cost management' contain equally hollow discussions. Some areas of cost reduction pointed out, are puerile. For example, in the chapter on 'hospital cost controls' one suggestion is that no treatment should be made in respect of cases, which the doctor is sure, are 100 per cent fatal.

Poor language and innumrable printing mistakes make this a dull reading. There are many sentences of uncouth construction like ... new budget is hardly an ambition or aim to be strived for in terms of cost efficiency' and 'one can and these days programmers have set up ....

In sum, Dr. Chopra's 'Cost Reduction—A Distinct Possibility' does not do a bit of justice to the subject.

— M. RAMESH

Organization Theory and Behaviour by VSP Rao and P S Narayana, published by Konark Publishers Pvt. Ltd.,Behi House. 13-Daryaganj, New Delhi-2; First edition-1980 Pages 764, Price Rs. 65.

We are born in organizations, educated by organizations and most of us spend much of our lives working for organizations' (Etzoini). Ours is a world of organizations and we lead organizational lives. The Book under review attempts to analyse theoretical and behavioural dimensions of organizations in general.

Book is divided into five parts. First part deals with importance and goals of organization. It also deals with kinds of organizations and individuals in organization

Second part aims at describing various theories of organization under three broad classification, classical, Neo-classical and modern Theories of Taylor, Elton Mayo and Boulding have been discussed elaborately under the three respective classes. Part three of the book deals essentially with the structural dimensions of organization.

Factors, forms and basis of organizational structure, role of bureaucratic elements and theories of authority and status in the organization have been discussed nicely in this part. Part four attempts to analyse the behavioural aspects of human beings engaged at work in the organization Personality clash and development in the organization, process of learning, behaviour modification and attitude formation of individuals in organization and constituents of individual and group behaviour have been discussed coherently. Part five deals with motivation and leadership in the organization highlighting relevant approaches and models.

It also include chapters on organizational change and development, control mechanism, managerial effectiveness and environment of organization. On the whole, book offers a wide range of study and collection of views of experts on theoretical and behavioural aspects of roganization This book should prove useful to those who wish to intellectually equip themselves with conceptual and theoretical framework of organizations Authors have made sincere efforts to clear the 'fog surrounding some concepts and issues in the field of organization theory and behaviour

Tushar Kant Mishra

Business Management and Policy : B.M. Wali and Y.B. Yalawar, Sterling Publishers 1988 Price Rs. 250/- paged 477.

The book presents concepts, theories and principals of business management in lucid style. Divided in six parts, the book has specially kept in view the requirement of students of management education of various Universities and professional institutes like the institutes of Chartered Accountants, Cost and Works Management and the Institutes of Company Secretaries. It is also good as reference book for reading additional material on various topics.

Although the book deals with several aspects of management i.e. kind of business organisations, internal organisations, various sizes of firms, location layouts, a building planning, financial institutions etc., but the major thrust is an management, its concepts, principles, functions training in decision

making leadership, company management, personal financial management etc.

Attempt has also ben made in this book to present latest data with latest policy decisions. The policy oriented discussions of various issues involving business managers, govt. and other policy making bodies, presents a real good reading and would help students develop professional and business acqumen. It is an attempt more from the point of view of management rather from that of trade union practioners. It is good for a class room exercise and helps develops clearer concepts of various aspects of management.

It is no doubt a good attempt but the book has been priced on the higher side It is difficult for students to buy individual copies Yet it must find a place in libraries for both students and casual readers of management. The Index at the Book is very scatchy and does not serve its purpose but the Bibliography is really helpful for the scholars who wish to go in for the deeper studies in different aspects of the Management. The question at the end of each chapter are helpful for students if not for practising professionals

S.K. Nayyar

(Contd. from page 26)

used by the affluent sections These items include cars, scooters, motor cycles, refrigerators, air-conditioners, television sets and numerous other products. Although the demand for them comes mainly from the people in the higher income groups, these industries do benefit the common people also by creating regular and remunerative employment Moreover, some of these goods find a ready market in foreign countries

For example, the gems and jewellery sector has emerged as the largest single source of earning foreign exchange, accounting for an estimated Rs 4500 crores in 1988-89. This industry is mainly in the unorganised sector. There are about 30,000 units engaged in diamond cutting and polishing, employing nearly six lakh workers, skilled and unskilled

The people of India are becoming increasingly aware of the large gap in their standards of living and those of the developed nations. They also realise that one of the major objectives of all our five-year plans has been to augment the availability of those goods and services which help to reduce drudgery and to add some comfort and dignity to their lives

Therefore, while taxing the so-called luxury goods, care had to be taken to ensure that they do not become so costly as to be beyond the reach of the massess.

Savings have to be encouraged by providing attractive avenues for them rather than by curbing consumption through heavy taxes.

In this connection, it is relevant to recall what the eminent French philosopher, Voltaire, wrote on this subject in 1764. In his **Philosophical Dictionary**, he obseved "People have declaimed against luxuxy for 2000 years, in verse and in prose, and people have always delighted in it" □□□

(Contd. from page 28)

2. Many Indian companies work as indenting/selling agents for their foreign principals acting as their representatives. For services rendered, payments could be received in free foreign exchage

The Service sector, which has a great potential for earning foreign exchange, has not been appreciated. In the process, we not only lose the precious foreign exchange but also the Income tax which could have been levied, if the funds were transferred to India.

On the other hand, honest assesses are at a double loss. They have to pay nearly 60 percent of Income Tax and get lower rate of exchange

The Direct Tax Laws (Amendment) Bill, 1988 has introduced section 80-HHD to provide deduction in respect of earning in foreign exchange by approved hotels or services provided to foreign tourist in India, thereby accepting the principle that services rendered within the country would also qualify for fiscal benefits

Recommendations

In order to seize opportunities to earn foreign exchange through service sector, following measures need urgent attention :

1. Set up a cell in Ministy of Commerce on Earnings from Invisibles 2. Have greater interaction with international agencies for opportunities. 3. Have an Invisible Export Council, 4. Have a policy for earnings on Invisible. 5. Extend immediately benefits of section 80-0 & 80 HHD to cover all services rendered in India or abroad for which payments are received in free foreign exchange, for all assesses. 6. Do away with unnecessary formalities and extend fiscal benefits based on Bank certificates. 7. Provide for publicity, travel concession for promotional work. 8. To give blanket permit of 10% of Foreign Exchange earning as given to exporters for earnings beyond Rs. 20 lacs. 9. To extend credit facilities for service sector for infrastructure. 10. To extend such other support as would motivate Service sector to earn more & more foreign exchange. □ □ □

Samudra expedition

Indian Naval Sailing Vessel Samudra on its round the world sailing expedition crossed the pacific and is in her last leg of the voyage. Samudra has crossed the major oceans of the world and covered a distance of about 38,000 km. during the last 11 months of her voyage round the world.

The Samudra Expedition has been an invaluable experience for the crew. She has also been the most effective floating ambassador for the country. With her six-man Tri-Service (Army, Navy and Air Force) crew she has touched the far corners of the globe carrying goodwill and bonhomie from the people of India.

Samudra is a sailing expedition with a difference. Unlike other yachts that circumnavigate the globe with modern gadgetry and clectronic navaids, the 13-metre Samudra is sailing round the world as in the "days of Columbus"—with a simple optical sextant and a magnetic compass.

Samudra has another distinction to its credit. Her crew on board is unique. It is for the first time ever that a Tri-Service team comprising Army, Navy and Air Force personnel has sailed round the world.For this six-man Tri-Service crew, it is a maiden adventure on the high seas and a lesson in comraderie.

After six months of preparation and training, Samudra set sail in September 1988 from Visakhapatnam on a 50,000 km voyage. The first leg of the expedition took Samudra from Visakhapatnam to Aden and there on to the Mediterranean where she arrived at the beautiful Veleta Harbour in Malta. Crossing the Mediterranean was a thrilling experience with the winter gales that brought in a short choppy seas. During one such gale, Samudra suffered damage to her mast. Through remarkable improvisation and skill the crew averted a near disaster.After a brief halt at Cartagena, Samudra passed through the Straits of Gibralter and reached the mythical island of Las Palmas in the Atlantic.

Crossing the Atlantic Ocean in winter is always fraught with danger. Samudra had a time schedule to maintain and so the crossing had to be made. After a change of skipper the vessel sailed from Las Palmas to across the Atlantic. Landfall was made at Cayenne in French Guyana a place made famous by the "Pappilon" legdend.

Whilst rounding the Latin American cast, Samudra halted at George-town, Guyana, Trinidad and then passed through the Panama Canal.

In preparation for the Pacific crossing, Samudra halted for a few days at Panama to repair the yacht which had suffered a setback in a storm off Venezuela.

In April 1989, Samudra commenced the Pacific crossing, from Panama following the 'Kontiki' route of the Polynesian Islands—Gallapagos, Marquesas and on to Tahiti.

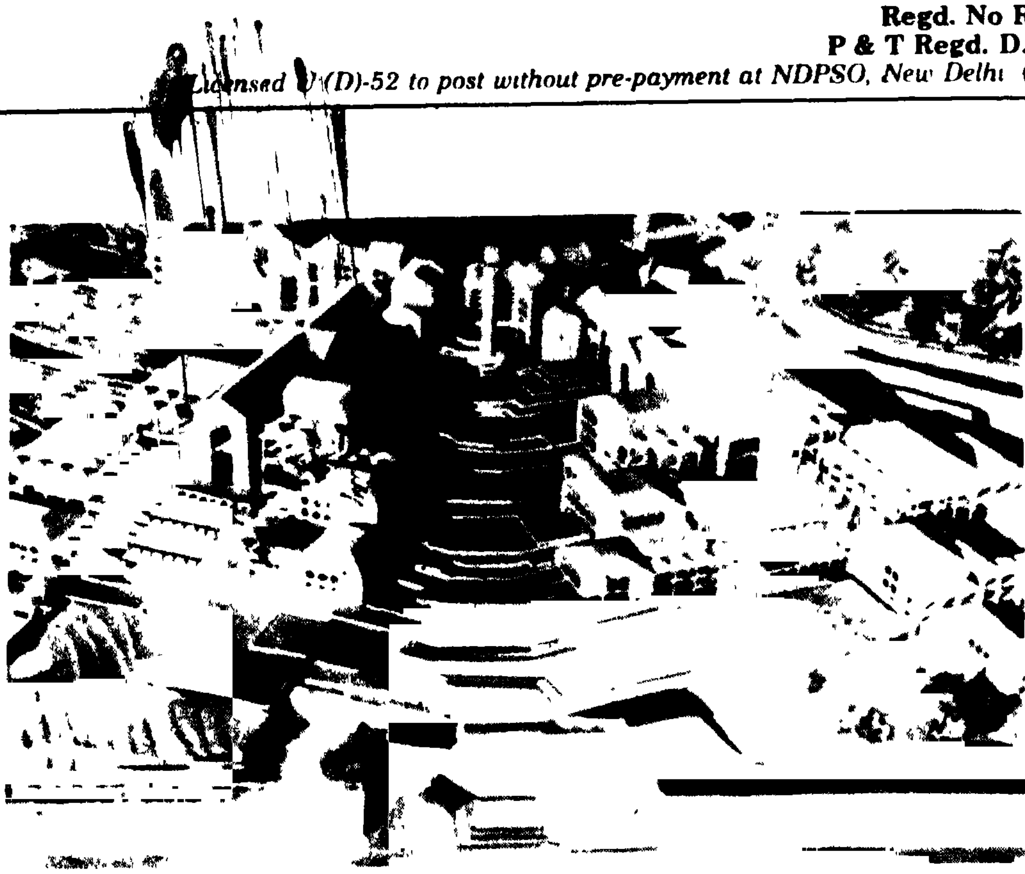
The longest uninterrupted leg of the journey was performed between Gallapagos and Marquesas– 6000 km. It was a feat of endurance with many a challenge enroute.

Samudra arrived at the exotic South Pacific Island of Tahiti in Mid July 1989—just in time to participate in the French Bi-centennial celebrations.

From Tahiti, journeying in the Southern Hemisphere, the Samudra halted at the historic Cook Island (Named after the discoverer—Captain Cook) and then performed a momentous passage crossing the International Date Line, and weathering several storms along a 4000 km stretch, upto Vannatu.

The expedition is expected to be completed by early Nov. 89. By the time they circumnavigate the globe the yacht would be covering a distance of over 50,000 km. □□□

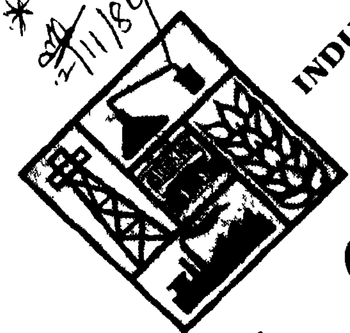
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New Naval Academy

The historical site Ezhimala in Kerala, known for its maritime tradition will soon house a full fledged Naval Academy to be named after Jawaharlal Nehru with practically every possible training mechanism available under the same roof The present Academy at INS Mandovi, Goa is insufficient to meet the future requirements of the Navy. Therefore, a 1000 hectare coastal site has been selected at Ezhimala. The Mount Dilli ridge which runs along the eastern boundary of the site provides a panaromic view of the lush green slopes to the west while the six kilometer long Academy beach and the Arabian Sea form the backdrop. The site has tranquil backwaters to the north for watermanship training while Ettikulam Bay to the south will provide access to the sea for ocean sailing. This legendary site will soon bubble with activity and review its maritime connections. The aspirations of the Navy are to set up an outstanding institution of military learning comparable to the best in the world. The Jawaharlal Nehru Naval Academy at Ezhimala is proposed to be built in two phases and is expected to be completed by 2000 A.D. Imparting sound education, physical conditioning to stand the rigours of life at sea and professional competence will be the aims of the training programme of this Academy. The proposed Academy will have a full fledged University, Engineering College and other Technical Naval Schools. The Arts of warfare Tactics, Seamanship and Navigational Evolution will be given due weightage during the training phase at the Academy. The Academy will have a capacity to train 1500 cadets at a time. It is no doubt that by the turn of the century Ezhimala will shape into one of the most modern Naval Academies in the world. ❑❑❑

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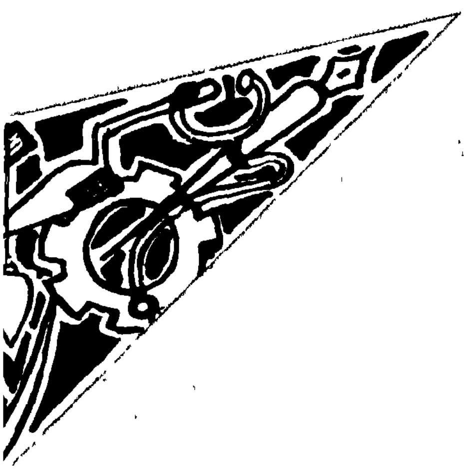
INDUSTRY

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CULTURE





Incentives to NRIs

The government has offered many incentives to Non-Resident Indians (NRIs) for setting up industries in the country. The salient features of these incentives are:

NRI (s) have been given the benefit of repatriation of capital investment and the income earned thereon to the extent of 40 percent of the total paid-up capital of the project;

In priority industries the benefit of repatriation on capital invested and income earned thereon is permissible to the extent of 74 per cent of the total paid up capital of the project. In non-priority industries also repatriation benefits on capital investments are available, provided the unit undertakes export obligation of minimum 60 per cent of the output and a minimum of 75 per cent of the output, in the case of industries reserved for small scale sector.

NRIs have also been given incentives for import of capital goods, components and raw materials for setting up industrial units in accordance with the Import and Export Policy 1988-91.

NRIs investments are allowed for all activities except for real estate business or for agricultural and plantation activities. This was stated by the Minister of State for Industrial Development Shri M. Arunachalam in the Rajya Sabha recently.

Approval of foreign Collaborations

With a view to streamline the foreign collaboration procedure and disposal of proposals expeditiously, powers had been delegated to various administrative Ministries to accord approvals for foreign collaboration proposals, provided the foreign exchange outgo in each case on lumpsum payment if any, royalty together did not exceed Rs. one crore in the aggregate. Shri Arunachalam informed the Rajya Sabha recently that final approval of the Industry Ministry was not required as powers had been fully delegated to administrative ministries for approving such cases.

New I.D.B.I. schemes for women

Industrial Development Bank of India (IDBI) will launch two new schemes, Mahila Udyam Nidhi and Mahila Vikas Nidhi. An announcement to this effect was made by the Union Minister of State for Finance, Shri Eduardo Faleiro, at a function at Bhopal recently.

Explaining the schemes the Union Minister said that Mahila Udyam Nidhi Scheme will provide seed capital assistance to women entrepreneurs to set up projects in small scale sector with cost upto Rs. 10 lakhs. It will be upto 15 per cent of the project cost. The scheme will be set up with an initial corpus of Rs. five crore and will be operated through State Financial Corporations.

Explaining Mahila Vikas Nidhi Scheme, Shri Faleiro said that it will provide grant and soft loan to voluntary agencies working for women in the decentralised industrial activities, with initial allocation of Rs. three crore out of IDBI's technical assistance fund.

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Industrial sickness

Kailash Prasad Meena

The author here puts forth an analysis of industrial sickness in India. According to the author "the number of large industrial units... identified by banks as sick units rose to 607 in June 1987 from 503 in June 1986" The same in small scale sector rose to 28385 in 1986 from 28303 a year before, according to the author. Giving several causes for the problem he says that it can be tackled if an atmosphere is created which is conducive for survival and growth of industries.

A LOOK AT INDIA'S INDUSTRIAL SCENE reveals that sickness in industrial units has become endemic and corporate sickness does not seem to have any entry barrier. The malady of industrial sickness which had started eating away the vitals of the country's economy from the beginning of the sixties, has assumed disturbing proportions, of late.

An industrial unit is considered sick if it is in financial distress and has persistently exhibited inability to meet its obligations to lenders and creditors. The RBI defines a sick unit as "one which has incurred cash losses for one year and, in the judgement of the financing bank, is likely to incur cash losses for the current as well as following year and/or there is an imbalance in the unit's financial structure, that is, when the ratio of current assets to current libailities is less than 1:1 and debit/equity ratio (total outside liability as a ratio or net work) is worsening." Similarly, the Finance Bill, 1977 contained a clause defining a sick unit as one whose 50% or more capital and reserve were wiped out by the losses. Thus, an industrial unit is a sick unit if it is persistently unable to meet its outside obligations and its internal as well as external additional sources of capital are so insufficient as to require the significant steps in terms of restructuring its assets, finances and management to revive it. An industrial unit is considered prone to sickness if there exists a potential of long run insolvency as reflected in the persistent financial deterioration of the unit over several years in the past and an expectation of worsening trend in future unless drastic actions are taken.

Analytical survey

The statements for the quarter ended June 1987 submitted by banks on sick units show that the number of large industrial units availing of bank credit of Rs. one and a half crore and above and identified by banks as sick units rose to 607 in June 1987 from 503 in June, 1986. The outstanding bank credit against these units at the end of June 1987 was at Rs. 2053.29 crores. This showed a rise of Rs. 507.6 crores over the corresponding period of the previous year. Out of the 607 identified sick units, banks had completed viability studies in respect of 386 units and of these 343 units were considered as potentially viable, of which 242 units were under nursing programme.

Besides, the number of sick units identified by banks in the small scale industries sector marginally rose to 28385 at the end of June, 1986 from 28303 a year ago. The outstanding bank credit against these units also rose to Rs. 321.5 crores from Rs. 292.8 crores over the same period. Out of these, 7258 units were considered by banks as viable and 13504 units as non-viable. Out of 7258 viable sick units 2329 units have been put under nursing programme at the end of 1987.

Industry wise, the incidence of sickness was more pronounced in the case of textiles with 114 units and outstanding bank credit of Rs. 507.48 crores followed by engineering and electrical industries with 112 units and outstanding bank credit of Rs.359.92 crores. In addition to this chemicals, jute and sugar are the other important industries in which 125 units have been declared as sick units accounting for nearly Rs. 457 crores of bank finances. Engineering, cotton textiles and chemicals account for nearly 70% of the outsanding credit.

An analysis of the state wise break up of industrial units shows that out of a total of 522 units, 403 units are located in six states viz, West Bengal, Maharashtra, Karnataka, Tamil Nadu, Gujarat and Uttar Pradesh. These 403 units account for Rs. 1520 crores of locked up bank credit- nearly 80% of the total credit. Maharashtra and West Bengal showed high concentration of 218 units involving bank credit of Rs. 779 crores. This was due to the concentration of engineering, textiles and jute industries in these two states.

According to the latest statistics available on Industrial Sickness in the country, there were as of June 1987; 595 large, 1319 medium and 29417 small scale industrial units on the sick list. About Rs. 2897.25 crores of bank loans stand locked up in these units. This constitutes a lofty 20% increase in outstanding bank loans to sick units in just one year. In just over six years since 1981, the number of sick units is increasing and the rise of industrial sickness seems to be unabated. Although nearly 1/3 of large to medium size sick industrial units belong to the textile industry, more and more units of other industries as well are added to the sick list every year.

Causes

The sickness of an industrial unit is caused by many factors. Given below is a list of factors (not exhaustive) that are identified by bankers (including the RBI) as causes of industrial sickness:–

(A) *Environmental* (Scarcity and uneconomic price of quality raw materials, disturbed industrial relations and so on).

(B) *Managerial* (lack of technical and managerial expertise etc.,)

(C) *Operational* (lack of market penetration etc.)

(D) *Financial* (lack of proper financial planning and control),

Remedial measures

The following measures may help to revive sick units: No declaration of cash dividend; improvement of equity base through rights shares; payment of interest and dividends in terms of shares issue; divest investment in non-profitable plants and operations; divest investment in slow moving/obsolete stocks; introduce cost saving devices; follow a conservative capital investment policy; negotiate for reschedule of maturing interest and debt payments; negotiate for conversion of debt into equity; take steps to collect cash and claims promptly; improve product quality; penetrate into new markets; find alternatives to the utilisation of idle capacity; avoid litigations, introduce an efficient information reporting system; make appropirate changes in management team, improve internal coordination and external rapport with customers, suppliers, creditors and government; consider technical collaborations resulting in savings in capital and costs; handover the management of the sick units to workers and/or professional managers with all the assistance, which was so far given to the employers to be made available to the employees; merger of sick units with healthy public sector or private sector units.

Government Policy

The central government has made, on and off, certain policy pronouncements on sick units. In 1977 as part of 'Industrial Policy', the government pronounced that it would take over sick units only on selective basis and that appropriate measures would be taken in cooperation with the RBI as soon as early warning signals of potential sickness are available. In June, 1981, it stated that four factors would be weighed properly while reviving sick units:

(a) there may be denotification of management followed by the liquidation of the concern; (b) the unit may be sold as an ongoing concern; (c) the liabilities of sick units may be reconstructed with the permission from High Court; and (d) the undertakings may be nationalised through the acquisition of assets or shares.

In practice, however, the government has departed considerably from its set policy. Its stock and barrel answer to industrial sickness appears to be government takeover and pumping considerable additional funds into these units through soft loans from IRCI, Public Financial Institutions, and Scheduled Banks. This is done with no adequate appraisal of the reasons for sickness. Lack of funds is not always the cause of corporate sickness. In fact, today it is, if at all, only a minor cause. Primary causes lie elsewhere. Often, abrupt and adverse changes in governments' policies on imports, exports, licensing trade practices, mergers and acquisitions, foreign collaborations and foreign exchanges etc. have meant a serious trouble for many a firm. They have experienced a crisis of liquidity with a potential threat to their very survival. A survey of large public and private sector undertakings conducted revealed that managements of surveyed corporations perceived government regulation and control as being one of the primary causes of bottlenecks in their firm's cash flow forecasting.

Both the central government and the RBI have so far rendered lip service to the cause of preventing industrial sickness.

The RBI can play a better role than simply monitoring the performance of commercial banks in the rehabilitation of sick units. It may take upon itself the task of establishing early warning systems for each industry by creating a separate cell or centre for gathering data and conducting dichotomous or discriminant analysis. There is perhaps something to be learnt from the experience of Banque de France which created a separate centre in 1968 called Centrable Des Bilans (balancesheet centre) that does financial analysis of loan applications throughout the commercial banking sector in France. Alternatively, the RBI should encourage public financial institutions and banks or their consortium (s) to develop early

(Contd. on page 13)

Removing variations in Industrial development

Dr. B.K. Sharma

The author here putsforth a study on industrial development and regional variations during the period from 1980-81 to 1984-85. According to the author there has been a decline in inter-state industrial variations at a fast rate in the said period. He says," The standard deviation in terms of output in respect of various States in the country has got reduced from 5.40 in 1980-81 to 5.16 in 1984-85". Almost similar is the case in terms of value added according to the author. Mentioning Government's policies vis-a-vis industrial licensing, incentives for location of industries in backward areas, etc., in order to remove the variation, the author stresses the need to accelerate the process of this convergence among the states.

INDUSTRIAL DEVELOPMENT PLAYS AN important role and contribute effectively for the overall growth of economy. The experience with development in India as elsewhere has shown that, while the overall growth of the industrial sector was reasonably satisfactory there have been variations in growth among states of the country. The uneven growth among different states led the planners to adopt a strategy of development which would promote an even development of states. One of the strategies thought of, was industrialisation of the backward states by locating industries in these states. The rationale for this was derived from the fact that the location of industries was not only essential to generate employment and income in the backward states but also that a decentralised industrialisation process was an important factor in balanced regional development. During the fourth five year plan positive step was taken by constituting two working groups, viz the Pande Working Group on identification of Backwardness and the Wanchoo Working Group of Fiscal and Financial incentives for starting industries in backward areas. Following this a number of steps were taken by the State Government to use industrialisation strategy for promoting a balanced development among various districts.

The Union government introduced several incentives. One such was the Central Investment Subsidy scheme announced in 1971 and the other was, districts having no medium or large scale industries have been identified as per District Industries Centres Action Plan 1979-80 and over riding priority was allowed in the grant of licenses in these districts.

Realising that one of the impediments towards rapid industrialization in the backward areas is the absence of infrastructural facilities, it has been decided with effect from April, 1983 to assist the state Government to take up infrastructural development in one or two identified growth centres in each no-industry district. Such centres would be endowed with infrastructural facilities at par with the best available in the country in the matter of power, water, telecommunications and banking.

Data and methodology

The data for the study is confined to the Factory sector and pertains to the period 1980-81 and 1984-85. This is based on the five fold criteria of the number of factories, productive Capital Employed, employment, output and value added. This empirical analysis may be expected to reveal the concentration of industrial activity in a few regions resulting in the variations in the levels of industrial development of different states. In brief, it is intended to present a

vivid picture of relative position of different states in the context of industrial growth in the year 1980-81 and 1984-85. An effort is also made to identify the states as (i) industrially developed, (ii) relatively less developed and (iii) least developed or backward.

Further an attempt is being made to study in different states the annual compound growth rate of 5 important characteristics of Industrialisation, relative shares of states, Index of Industrialisation as also frequency distribution of Index of Industrialisation.

Other measures of regional concentration like Hirschman Herfindahl (H.H.) Index and Theil's Index have also been used to examine the data. Furthermore the mean, standard deviation and coefficient of variation in respect of relative shares of different states have been calculated to examine variability among states over time.

The 95 per cent confidence interval in which all important characteristics of Industrialisation of country may lie are also given

Analysis of data

With regard to industrial development and regional variations, five important characteristics, viz., Number of factories, Productive capital employed, Employment, output and value added have been taken. Table I, presents annual compound growth rates of five important characteristics of industrialisation for all the states. It is quite disturbing to note that the number of factories in Andhra Pradesh, Gujarat, Karnataka, Kerala, Maharashtra, Orissa, Punjab, West Bengal and Delhi as per ASI data shows a negative growth from 1980-81 to 1984-85. Apart from other reasons this tendency may be due to largescale incidence of industrial sickness, which has emerged as a serious problem affecting the small, medium and large units. In this regard it may be mentioned that the number of sick units in the country increased phenominally from 24550 in December 1980 to 93282 in December 1984 showing a growth of 39.6 per cent. Of the 93282 sick industrial units (large, medium and small) involving a total bank credit of Rs. 3638.39 crores at the end of December 1984. For determining the preventive, remedial and other measures which are required to be taken in respect of sick industrial companies and for expeditious enforcement of the measures determined, the government have set up recently the Board for Industrial and Financial Reconstruction (BIFR). To reduce sickness in the small scale sector government initiated a significant policy in June 1987 by the liberalised margin money scheme for supplementing the efforts of the state governments.

Growth in the employment in the factory sector shows a downward trend in Assam, Bihar, Gujarat, Kerala, Maharashtra, Uttar Pradesh, West Bengal, Manipur and and Meghalaya. In respect of productive capital employed in the factory sector, the annual average growth rate of the country is 15.7 per cent from 1980-81 to 1984-85. The states/U.T. which have higher annual growth rate as compared to national average in productive capital employed are Madhya Pradesh (19.7%), Punjab (17.3%), Tamil Nadu (27.1%), Uttar Pradesh (17.7%), Himachal Pradesh (30.6%), Jammu & Kashmir (26.1%), and Delhi (17.4%). In terms of value added, Andhra Pradesh (25.2%), Assam (31.2), Bihar (22.9%), Gujarat (27), Madhya Pradesh (15.3%), Tamil Nadu (17.6%), Uttar Pradesh (16.4%), Himachal Pradesh (23.65), Jammu & Kashmir (34.1%), Tripura (35.6%) and Delhi (19.2%) shows a higher growth rate than that of the all India (15.0%) growth rate.

Andhra Pradesh, Gujarat, Maharashtra and Tamil Nadu, together accounted for 50 per cent of the total factory strength, 40 per cent of the total productive capital employed and about 50 per cent share in the total value added to the country, while the population share of these four states in all India is 29 per cent. It is quite evident that conscious and deliberate efforts have to be made for speedy industrialisation in favour of the states accounting for 71 per cent of the population, but accounting for 50 per cent of number of factories and 60 per cent of the total productive capital employed. In this group also special care needs to be taken for accelarated industrial development of industrially least backward states. But at the same time, it is evident from the table that Andhra Pradesh, Assam, Bihar Gujarat, Tamil Nadu, Uttar Pradesh, Himachal Pradesh, Jammu & Kashmir and Delhi improved their position during 1984-85 compared to 1980-81 in terms of relative share of value added. The relative share of Maharashtra and West Bengal in respect of value added shows decline during the period.

The regional shares by themselves do not completely reveal the regional variations in the levels of industrial development. The variations in the level of development of different states can, therefore be brought to light, by relating the distribution of capital, employment, output and value added to the distribution of population among the states. For this purpose, Index of Industrialisation for all the states are computed by dividing the percentage share of a particular state in all India total in terms of each of the five indicators regarding the level of industrialisation used in this study by the percentage share of that state in total population of the country. If this share is greater than unity, it implies that the state has higher share of industrialisation as compared to the proportionate share on the basis of population. If Index of Industrialisation is less than unity, it reflects that the state has lower share of industrialisation as compared to its proportionate share on the basis of population.

On the basis of Index of Industrialisation, the states/U.T. may be divided into three categories. Gujarat, Maharashtra, Punjab, Haryana, Tamil Nadu, West Bengal, Delhi and Chandigarh are in the category of industrially developed (category 1). In the category of relatively less developed (category 2), the states/U.T. of Andhra Pradesh, Karnataka, Kerala, Madhya Pradesh, Rajasthan, Himachal Pradesh,

Table 1

Important Characteristics of Industrialisation in Different States: All Industries

State	Factories (Nos.) 1980-81	1984-85	Annual Compound Growth Rate	Productive (Rs. Crores) 1980-81	Capital 1984-85	Annual Compound Growth Rate	Employment ('000' Nos.) 1980-81
1.	2.	3.	4.	5.	6.	7.	8.
Major States							
Andhra Pradesh	11155	10174	-2.3	2353.82	4130.19	15.1	668.15
Assam	1583	1721	2.1	583.70	781.25	5.8	134.62
Bihar	4250	4271	0.1	4311.27	6459.89	10.6	561.93
Gujarat	11208	10349	-2.0	3873.47	7103.95	15.6	699.43
Haryana	2486	2662	1.7	1296.96	2104.48	12.9	169.17
Karnataka	5381	5298	-0.4	1802.83	2941.51	13.0	396.24
Kerala	3049	2998	-0.4	1286 38	1850.80	9.5	279.87
Madhya Pradesh	3488	3711	1.6	2931.77	6966.61	19.7	324.71
Maharashtra	15576	15189	-0.6	7174.63	12130.13	14.0	1337.72
Orissa	1563	1349	-3.6	1187 90	2043.58	14.5	133.19
Punjab	5668	5356	-1.5	1883.50	3571.09	17.3	285.14
Rajasthan	2896	2701	0.1	1068 77	2853.39	14.4	191 13
Tamil Nadu	10292	13076	6.2	3414.89	8898.79	27.1	794.99
Uttar Pradesh	7151	7940	2.7	4183.97	7941.57	17.7	770 63
West Bengal	6369	5369	-4 1	3641 73	5543.54	11.1	952.03
Other States							
Himachal Pradesh	173	213	5.3	223 35	650.25	30.6	22.25
Jammu & Kashmir	327	437	7.5	129 15	327 06	26.1	27.66
Manipur	38	48	6.0	2 30	1 13	-16.3	1.63
Meghalaya	35	32	-2 2	84.84	89 79	1.4	5.90
Goa, Daman & Diu	189	229	4.9	205 40	256.20	5 7	15.28
Tripura	222	250	3.0	13.65	13.83	0.3	11.44
Union Territories							
Delhi	3213	3104	-0.9	715.09	1360 05	17.4	139.96
Chandigarh	202	268	7 3	27 82	44 05	12.2	10 52
Pondicherry	148	162.	2.3	34.04	49.19	9 8	18.38
A & N Islands	31	40	6 6	7 50	12 41	13.4	4 94
All India	96503	96947	0 1	43108.78	77165 34	15 7	7714.68

State	1984-85	Annual Compound Growth Rate	Output 1980-81	(Rs. Crores) 1984-85	Annual Compound Growth Rate	Value Added (Rs. Crores) 1980-81	1984-85	Annual Compound Growth Rate
1.	9.	10.	11.	12.	13.	14.	15	16.
Andhra Pradesh	683.31	0.6	3184.18	6259.38	18 4	583.69	1432 36	25.2
Assam	113.36	-2 3	646.69	1313 72	19 4	115.80	343.19	31 2
Bihar	349.68	-2 2	3108.13	6024.17	18.0	501 23	1142.16	22.9
Gujarat	685.02	-0.5	7159 76	12079 06	14.0	1138 71	2131.52	17.0
Haryana	224 91	7.4	1871 02	3314 84	15 4	345 71	588 36	14.2
Karnataka	395.86	—	2591.81	4352 21	13 8	603 02	1049 12	14.8
Kerala	247.79	-3.0	2091.41	2569.09	5.3	390 63	683.50	15 0
Madhya Pradesh	392.85	4.9	2450.00	5335 32	21.5	602 11	1063 28	15 3
Maharashtra	1255 63	-1 6	14405 87	23546 61	13 1	2985 99	4760.25	12.4
Orissa	141.33	1.5	1024 21	1635.43	12 4	198 15	232.58	4 1
Punjab	308.87	7 1	2491.06	4226.91	14 1	386 07	617 45	12.5
Rajasthan	220 47	3.6	1612.11	2839.82	15.2	334 05	549 98	13.3
Tamil Nadu	884.21	2.7	6634.69	11121.51	13.8	1229 40	2354 99	17.8
Uttar Pradesh	749.45	-0 7	3776.62	8648.63	23.0	749 30	1377.56	16 4
West Bengal	917 84	-0.1	5992 52	8596.91	9 4	1374 94	1831.96	7 4
Other States								
Himachal Pradesh	32.34	9.6	142.98	388 39	28 4	62 00	144.79	23 6
Jammu & Kashmir	43.78	11.9	108.54	288.34	27 7	17 91	57.95	34.1
Manipur	0.78	-16 8	1 36	2 73	19 0	0 58	0 38	9 4
Meghalaya	5 50	-1 7	27 35	22.80	-4 4	13 80	8 60	-11.2
Goa, Daman & Diu	16.89	2.5	214 11	404.19	17 2	60 83	78 92	6.7
Tripura	11.80	0 8	12 51	28 36	22.7	3 13	10 59	35.6
Union Territories								
Delhi	161.83	3 7	1347.38	2340.36	14.8	189.85	382.86	19 2
Chandigarh	12.09	3.5	92.88	124.48	7.6	15.96	27.83	14.9
Pondicherry	11.00	-12.0	86.29	86 19	—	21.86	14.06	-10.4
A & N Islands	5.13	0 9	12.51	16.53	7.2	3.97	2.47	-11.1
All India	7871.71	0.5	61084.03	105566.00	14.7	11928 77	20867.16	15.0

Pondicherry, Andaman & Nicobar may be included. The least developed states (category 3) on the basis of data given, may be identified as Assam, Bihar Orissa, Uttar Pradesh, Jammu & Kashmir, Meghalaya and Tripura. However, table I shows that the states falling under the category 2 and 3 are growing at a very fast rate, the annual compound growth rates in terms of various indicators used in this study of these states during the period from 1980-81 to 1984-85 being quite high. Further, for attracting industries to backward areas with infrastructural facilities at par with the best available in the country, particularly in respect of power, water, telecommunication and banking, government had announced in June 1988 to set up 100 growth centres throughout the country over the next five years or so. Each growth centre was provided with funds of the order of Rs. 25-30 crores in order to create infrastructural facilities of a high order. In the first phase, it has been decided to take up 61 Growth centres allocated to various states/U.T.

Measures of state-wise concentration of Industry like Hirschman Herfindahl (H.H.) Index and Theil's Index have also been calculated (Table 3) for all the five indicators. The value of index rises with the rise in the disparities H.H. Index fails to take into account the population share of a state, while Theil's index considered the population share of a state. On the basis of these Index it may be concluded that the distribution is not even in terms of number of factories and productive capital employed in factory sector in different states. Even though the degree of inequality in the level of output and value added of different states declined during the period, leading to the conclusion that backward states are catching up with the developed ones.

The coefficient of variation of all the five characteristics i.e. No. of factories, Productive capital employed, Persons employed, value of out put and value added in respect of relative shares of different states have been calculated. It shows a decline in variability of different states since 1980-81 in respect of value of output, value added [illegible] employed, thus corroborating once [illegible] that there has been a decline in regional [illegible]

On the basis of annual compound growth rates of all states (Table I), the 95 per cent confidence limits separately for growth rates in respect of all the five important characteristics of industrialisation-All Industries have also been worked out. Table 4 shows that probable limits for value added is from 8.93 to 19.07 per cent, value of output is from 12.26 to 18.24 per cent, estimated limit for growth rate of productive capital employed is from 8.88 to 16.62. It may be observed that probable limits for growth rates of productive capital employed and value added are more or less the same. On the basis of this, we may deduce that the rate or value added is almost directely proportional to growth rates of productive capital employed

Conclusion and suggestions

In the preceding section it has been pointed out that there has been a decline in inter-state industrial variations in 1984-85 compared to 1980-81 at a very fast rate. The average growth rates of less-developed and least developed states are very small on the basis of area and population.

Table 4

95 per cent confidence intervals (estimated)for growth rates of important characteristics of industrialisation-All-[illegible]

	Estimated Growth [illegible] From		[illegible]
1 No of Factories	0.28	[illegible]	[illegible]
2 Productive Capital Employed	8.88	[illegible]	[illegible]
3 Employment	-1 76	—	[illegible]
4 Out Put	12 26	—	18.24
5. Value added	8 93	—	19 07

It is worth mentioning that the standard deviation in terms of output in respect of various States in the

Table 3

Measure of State-wise concentration of industry (factory sector)

	Factories		Productive Capital		Employment	
	1980-81	1984-85	1980-81	1984-85	1980-81	1984-85
1.	2	3	4.	5	6	7.
Hirschma Herfindall Index	8 83	8 86	8 45	8 58	9 24	8.81
Theil's Inequality Index	8 19	8 46	3 27	3 93	5 50	5 58

	Output		Value added	
	1980-81	1984-85	1980-81	1984-85
H.H Index	10 83	10 28	11 30	10 44
Theil's Inequality Index	9 69	8 61	10 36	8 63

(Contd: on page 28)

Development of small scale sector in India

Nawab Ali Khan

The author here makes an assessment of the development of small scale industry in India. According to him "the value of export from this sector has increased rapidly." While lauding the role of Government in the development of the Small Scale Sector, the author also mentions a few problems being faced by the industry vis-a-vis marketing problem, growing incidence of indsutrial sickness, lack of standardisation and trade mark facility, etc. which, according to him, are hampering the growth of the sector. He suggests remedial measures like establishment of State Marketing Corporations in each state and identification of sick units and providing them relief.

THE SMALL SCALE SECTOR IN INDIA embraces various types of units, ranging from ancient household industries to modern small scale units which are mainly located in the urban areas and produce goods using wholly or partly the mechanised equipment. Today, small scale sector occupies a central place in the economy of India.

What is SSI?

Small Scale Indsutry (SSI) has been defined as a unit engaged in the processing, preserving, manufacturing or servicing activities with an investment in plant and machinery of not exceeding Rs. 35 lakhs. Such small scale units which are supplying at least 50% of their production to some of large scale units are termed as ancilliary units and for them investment in plant and machinery may not be exceeding Rs.45 lakhs. Besides, units which are situated in an area with a population not exceeding 50,000 investing not more than Rs. 2 lakhs and which use locally available goods as raw meterials, are termed as Tiny units.

Performance of small scale sector

Small scale sector today occupies a pivotal position in the country's process of development The sector has considerably diversified its production and is manufacturing a wide variety of products including the sophisticated items which are either export-oriented products or are import substitution products. The sector has a sizable weight in India's index of production, employment generation and foreign exchange earning.

Export performance

Recent export policy has made a selective approach to promote exports of small scale sector products which are more labour intensive. The value of export from this sector has been increasing rapidly. It has occupied pride of place in the total export of the country. The major export from this sector relates to the marine products, readymade garments, woollen garments, leather products, engineering goods and durgs & pharmaceuticals. Consequently, India has acquired vigorous competitive position among the capital intensive industries of the developing countries, because of higher percentage of export from this sector. The value of India's total export vis-a-vis small scale sector's export is exhibited in the given table

Data given in the table reveal that approximately one fourth of the exports of the country comes from the small scale sector. It will be in the interest of dispersal of income and opportunities if the small scale units which can be conveniently scattered, are further encouraged to contribute to India's growing exports.

Table

Trends in India's exports and the contribution of small scale sector (1978-79 to 1986-87)

Items	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87
Total Export (Rs in Crores)	5726.26	6458.76 (12.8)	6704.12 (3.8)	7358.07 (9.75)	8907.75 (21.0)	9865.30 (10.8)	11743.70 (19.0)	10894.80 (-7.23)	12566.80 (15.4)
Small Scale Industries Export (Rs in Crores)	1069.24	1226.30 (14.7)	1519.18 (23.9)	1686.00 (11.0)	2094.00 (24.2)	2350.00 (12.2)	2580.00 (9.8)	2785.00 (7.95)	3646.00 (30.9)
Percentage of small scale industries to Total Export	18.7	19.0	22.7	22.9	23.5	23.8	21.9	25.6	29.0

Note – Figures within brackets give percentage increase/ decrease over the previous year.

Role of the government

Small scale sector has been accorded a strategic place in India's economic development. Various measures have been taken by the Government to promote the development of the sector. The growth of this sector is the direct outcome of increased outlays by the Government during the successive five year plans. The public sector expenditure on small scale sector during the plan periods has significantly increased from mere Rs. 5.20 crores in the first plan (1951-56) to Rs. 1120.51 crores in the seventh plan (1985-90), thereby registering an increase of 214.5 times over the first plan

The Government provides market protection through the reservation of proudcts for exclusive production in small scale sector. The total number of items reserved for exclusive manufacture stood at 847 at the end of December 1987, while it commenced with merely 47 items in 1967.

The small scale sector is also provided with purchase preferences. At present, 409 items are reserved for exclusive purchase from this sector; while 13 items are reserved for purchase upto 75 percent of the requirement, and 28 items for purchase upto 50 percent.

Financial assistance is also provided to the small scale sector by the Government and financial institutions During 1987-88, a National Equity Fund was established with the object of rendering special assistance to the tiny units in small scale sector. For this purpose, the Government of India has provided Rs. 5 crores with an equal contrbution from IDBI. This scheme provides soft term loan to small scale and tiny units, which are located in villages or towns with a population not exceeding 5 lakhs.

The modern industrial sector in India, is unable to keep pace with the population growth and can adjust 5 to 15 percent youth. Therefore, the problem of unemployment is assuming dangerous proportions today. To meet the challenge, the Government initiated the scheme for self-employment to educated youth in 1983-84. The scheme is administered by the District Industries Centres (DICs) through the commercial banks. There has been an impressive progress in the scheme. In 1986-87, the number of beneficiaries stood at 2.19 lakhs with sanctions from banks amounting to Rs. 455.12 crores.

Technology upgradation

Small scale sector in India is capable of absorbing uptodate technology. Modernisation and upgradation of existing technologies will definitely increase productivity and greatly contribute towards accelarating the rate of growth of the sector. Keeing in view this factor, development centres at various places viz., Product-Cum-Process Development Centres for Casting and Forging Industry at Agra, Sports Goods Industry at Meerut Domestic Appliances at Bombay and Ceramic and Glass Industry at Ranchi have been established. Considering the necessity of technology upgradation in small scale indsutries, the National Small Industries Corporation (NSIC) has recently started a modernisation implementation programme. The programme aims at the technology upgradation and improvement in production in small scale sector. Under this programme the NSIC would provide a package of assistance to a selective segment of the units in small scale sector. The package assistance areas include consultancy, training for personnel, systems study, technology improvement, testing facilities, import of technology on a consortium basis and supply of modern equipment under hire purchase and leasing schemes on a concessional rate of interest.

Thus, the Government is taking all efforts to develop the small scale sector. Beside above mentioned facilities, it also provides raw materials, machinery on hire purchase basis, training and quality control facilities, subsidies and incentives, income tax rebate, exemption in excise duty, concession in interest and priority in the disbursement of loans by the financial institutions.

Problems

Despite comperhensive assistance provided by the Government and a number of facilities available to small scale sector, it is hampered by several problems.

One of the major problems is the growing incidence

of industrial sickness which has become a complex economic problem in the small scale sector. It has direct impact on the production and employment. The number of sick units is increasing year by year. Statistical data available indicates that the number of sick units increased from 23149 in 1980 to 145776 in 1986.

In addition, the scarcity of raw materials and imported components & equipments adversely affect the development of the small scale sector.

Marketing is the foremost problem, being faced by the small scale sector in the wake of stiff competition from the large scale sector. Revolutionary technological changes too adversely affect the small scale units.

Lack of standardisation and trade mark are two major constraints affecting the growth of small sector. The products made by this sector are neither properly standardised nor possess any trade mark, due to which the products do not enjoy popularity.

Further several problems of small scale sector flow from the limited resources. Adequate finance is not forthcoming and therefore this sector has to bank upon its own meagre resources.

There are some other problems also like the inadequate power supply which lowers production and discourages new entrepreneurs in establishing their units. The burden of heavy taxes, outdated production techniques and lack of resources act as impediments. They also suffer due to their inability to recruit highly qualified personnel and conduct market research etc.

Suggestions

The growing incidence of industrial sickness should be tackled with care and caution. Various causes of sickness should be identified and remedial measures be taken to provide overall relief to sick units for bringing them on normal footing. Recently, the Government of India has taken up several measures for combating sickness in small scale sector by liberlising Margin Money Sheme and enhancing of assistance from Rs. 20,000 to Rs. 50,000 per unit.

The scarcity of raw materials may be considerably removed by enhancing quota for each unit and through proper allocation of raw materials by the Small Industries Development Organisation (SIDO).

To solve the marketing problem, the entrepreneurs should make use of Government support and assistance. Besides, the Government should establish State Marketing Corporations in each state.

Keeping in view, the significance of standardisation, the products made by small scale sector should be properly standardised and be identified by trade marks.

Financial problems should be removed by making available cheap, adequate and timely finances. This step must be taken up by SIDO by providing adequate financial assistance.

Adequate electricity supply should be made available on concessional rates keeping in view actual consumption by each unit. Management must develop basic qualities, dynamism and sufficient knowhow of latest management techniques and develop technical skill.

Conclusion

To conclude, it can be said that the small scale sector has been contributing to economic development of India, adding to maximisation of employment and generation of foreign exchange. A high expansion target for the small scale sector in the Seventh Plan further highlights its importance in industrial surge in the Indian economy The Seventh Five Year Plan (1985-90) envisages to increase the production from Rs. 50520 crores to Rs. 88220 crores at (1984-85) prices, employment from 90 lakhs persons to 119 lakhs persons and export from Rs. 2350 crores to Rs. 4140 crores. It means that production would rise at an annual average rate of 14.9 percent, employment at 6.4 percent and export at 15.23 percent per annum respectively Thus small scale sector is playing a strategic role in the acceleration of economic development of the country. The sector has better adaptability to variable production and market conditions. The development of small scale sector is, therefore, an essential pre-requisite for combating poverty and unemployment in the country. □□□

(Contd. from page 5)

warning systems of their own to deal effectively with this growing problem of industrial sickness

Conclusion

The management of most industrial enterprises including those in the private sector in India is, to varying degrees, soft, everywhere. This is to say that managements abhor resorting to compulsion to enforce technical discipline in plants relying only on persuasion and incentives to get the work through. Hence, the government should come forward to undertake a crash programme to solve the problems of all the sick units within one year. Those, which are not in a position to stand on their feet despite the injection of funds, should be liquidated. *For the remaining units which can be nursed back*, imaginative and practical steps should be taken to revive them. Corporate sickness is curable. All that is called for is an integrated approach to the problem with a lot of self discipline and Continuous monitoring performance. ■■■

Privatisation of public enterprises

Praveen Jaiswal

After analysing the causes for and against the privatisation of public enterprises in India, the author clearly states that the dynamics of privatisation should be taken on a selective basis, and both sectors viz. government as well as private, have ample scope for co-existence.

STATE INTERVENTION IN THE ECONOMIC or business activities is no longer an economic anathema or political taboo as in the past. Increasing intervention by the state in the economic field has been the characteristic feature of this century, particularly during the recent past. The extent of this increased state activity is tremendous. Its influence on the social, political and economic life of the community has been far-reaching. The gospel of *laissez-faire* is dead, and will never revive much as the so-called "liberal" thinking or the old "liberal" attitude may still hanker after it.

Faced with the problem of scarcity of resources needed to launch upon planned development of India's backward economy, the national leaders of Independent India decided in early 50's to pursue mixed economy approach in a democratic set-up. The state as well as the private sector had to go together, particularly in the industrial field. In recent years, attention has been focussed on government policies involving the transfer of assets or activities from public to private sector. Privatisation is inevitably associated with the desire for 'smaller government', and is thus a politically charged term. At a time when Eighth Plan (1990-95) is going to be finalised, it would be more appropriate to evaluate the rationale behind going in for privatisation in a big way.

The case for public ownership has traditionally rested on allocative efficiency-the proportion of resource allocation in the economy as a whole. In contrast, the case for private ownership rests on the incentives and constraints that the market provides to promote efficiency within the business firm. This type of efficiency, known as technical or production efficiency, is synonymous with cost minimisation for a given level of output.

There are three main reasons why we might expect public sector management not to behave in a way that is consistent with cost-minimisation. First there is an absence of a clear cut profit objective, the over-riding goal of private enterprises. In our country, there is no ultimate sanction on poor performance of public enterprises. The second problem arises from the fact that the public sector is often assigned a number of objectives, among which cost minimisation has low priority. Finally, the incentives confronting public sector management are not compatible with the pursuit of efficiency in production, since neither their earnings nor tenure are directly related to any measure of performance such as profitability. In addition, the public sector can be expected to put up stiff opposition whenever new working practices are proposed. While enhancing efficiency, this may also lead to job losses. Thus, attempts by managements to improve the efficiency of public enterprises can involve confrontations with both the government and the unions.

Advocates of privatisation argue that private ownership has other advantages apart from restoring incentives which promote productive efficiency. The threat of bankruptcy is perhaps the most important. Private ownership, at least in principle, frees the enterprise from the prospect of political interference in decision-making, and this must count strongly in its favour. It would be relevant to point out here that the private ownership has a clearly-defined objective, namley profitability, and a clearly observable indicator of performance, namely the stock-market or share-price. This contrasts sharply with often confused and conflicting multiple objectives of state owned enterprises.

It is worth noting, however, that the foreign agencies have all along been laying emphasis on promoting private sector growth rather than asisting the development of an effective public sector. The result is that the developing countries which have given precedence to the public sector in their plans have failed to secure large enough quantum of aid.

This is an imbalanced and "misplaced" approach, according to President A.W. Clausen of the World Bank. The World Bank and the I.F.C. (International Finance Corporation) help governments in creating conditions conducive to productive private sector activities. But the roles of these institutions are essentially of a catalytic nature. It may be noted that the World Bank and its affiliate, advance loans for agriculture, rural and urban development, water supply, industry, social security activities and technical advancement. All these activities fall within the bounds of the private sector.

A private enterprise, however, does not always guarantee maximum productive efficiency. Under private ownership, incentives and constraints on managerial behaviour may be blunted by lack of competitions in product market combined with the divorce of ownership from control. In spite of a great deal of debate, the government is yet to come out with a clear-cut-perspective on privatisation.

Privatisation policies may be divided into three broad types. The first one is through asset sales, the second one is deregulation of a protected market, and finally franchising or contracting out the provision of marketable goods and services, to private sector enterprises. Each of these instruments can be used separately or in combination with others. In some of the West-European countries and the U.S., it has been observed that privatisation through asset sale can, in some circumstances, be worthwhile, yielding a reduction in resource waste in the national economy. This assessment is consistent with, but not overwhelmingly supported by the Australians drive towards privatisation

Where a public enterprise operates in a highly protected or regulated environment, deregulation or liberalisation of the market may generate, a substantial improvement in public sector performance without transfer of ownership. Privatisation through asset sale without liberalisation is likely to do more harm than good, since the firm will continue to be protected from competition while being relieved of the requirement to follow government directives designed to promote social aims.

Privatisation appears particularly prone to exploitation by special interest groups at the expense of genuine gains in over-all economic prosperity. Where a public enterprise is functioning to correct a market failure, the anticipated benefits of privatisation through asset sale should be set against the distortionary cost which may result from withdrawl of government control.

Franchising is another mechanism for privatisation when the market is inherently monopolistic and/or when the government likes to retain control over prices and output. examples of industries where franchising may be used, are the transport sector and domestic airline services. It is possible, however, that the privatisation of non-traded, publicly produced goods and services will yield greater gains. The government should give special attention to this aspect of privatisation.

Where a privatised firm enjoys statutory monopoly status, allocative efficiency will be at risk in the absence of regulatory constraints on monopoly pricing. Privatisation of this form, therefore, is likely to be followed by calls for regulatory controls. The need to establish some regulatory authority should also be anticipated. Taking this issue into consideration, one can say that in our country market failures has given way to bureaucratic failure. There is limited scope for privatising market monopolies.

The demarcation of the respective areas between public and private enterprises is a matter of public policy. While going for large scale privatisation, the yardstick which can produce the best social results, should be applied. Public enterprises can work unsatisfactorily on account of the rigidity inherent in their operation. The private sector, on the other hand, may become completely oblivious of the people's efforts "to bring about a reduction in income and a more even distribution of economic power"—objectives formulated in the second Five Year Plan and reiterated in the subsequent plans.

It is generally assumed that widening the public sector would help diffuse economic power, particularly in a developing country like India. Our Planning Commission has stated more than once that a more even distribution of economic power can be achieved only through all-embracing state action Recent events, however, have shown that this does not necessarily happen. The assumption of greater power by the state often results in a mere "shift" in the seat of concentrated economic power and not in a diffusion of power and economic democratisation.

The dynamics of privatisation should be taken on a very selective basis. There seems to be ample scope for the co-existence of both sectors in India. The human and material resources of the country are virtually unlimited. In the absence of private initiatives, our public sector may not be able to make full and effective use of them, even under a dozen Five Year Plans. It is significant that, in spite of the considerable expansion of the public sector during the last three and a half decades, private enterprises in India to-day are extremely buoyant, shares are being obsorbed by the market in no time, and some scrips are being quoted in the stock exchange at fantastically high rates.

Will the private sector show the expected results? Or will it merely assert to cover up its deficiencies that "relaxations in the control mechanism have not gone far enough?" One can only hope that the private sector will endeavour seriously to deliver the goods and reach new peaks ■■■

Productivity in cement industry

Dr. K. Nirmala Devi

In this article, the author attempts a study of the trends in productivity of cement industry in India during 1973-74 to 1987-88. In the 70's there has been near stagnation in cement production. In the 80's, however, there has been a remarkable upward trend in production aided by the introduction of the dual pricing system in early 1982. The author, however, feels that the recent change in policy with regard to the industry, may adversely affect the productivity trends of the industry.

THE CEMENT INDUSTRY PLAYS A VITAL role in the country's development since it is a basic building material. It can also be considered as the most diversified industry of India because it has been established in all the states except West Bengal as superior quality of lime-stone, the important raw material in cement manufacturing, is available in abundance in many parts of the country

The first attempt to manufacture cement was initated in 1904 by South India Industries Limited in the then Madras Presidency. But a real beginning was made only in 1914 by the Indian Cement Company Limited with an installed capacity of 1000 tonnes in Porbandar in Junagadh. There has been remarkable progress in cement indsutry in recent times

In order to study the trends in productivity of cement a linear trend has been fitted for the data. The linear trend thus obtained is given by:

$Y_t = 10.1812 + 1.6532^{*} t$ (9.1234)

(Figures in paranthesis denote t-value * Significant at 1% level)

Where Y_t = production of cement in year t and t = time

An increasing trend with a significant growth rate of 1.65% during 1973-1974 – 1987-1988 was observed in the cement production in India.

Table

Trends in productivity of cement industry

Year	Production (In Million Tonnes)	Percentage change
1973-74	14.66	– 5.72
1974-75	14 60	–0.004
1975-76	17.294	18 45
1976-77	18.853	9.01
1977-78	19.380	2.80
1978-79	19 416	0.002
1979-80	17.686	–8.9
1980-81	18 657	5.49
1981-82	21.012	12 6
1982-83	23.323	11.0
1983-84	27 056	16 0
1984-85	30 174	11.5
1985-86	33.100	9 7
1986-87	36 590	10.54
1987-88	39 000	7.41

The period under study can be divided into two phases: (i) The 70's can be described as a period of near stagnation (2) The 80's as a period which witnessed hectic activity.

70's a perriod of stagnation

In 1973-74 the percentage change was significantly negative In 1974-75 also the percentage change was negative though that negative growth was very insignificant. In 1975 76 and 1976-77 the percentage changes in production were 18.45 and 9.01 respectively. In 1977-78 the percentage growth in production of cement was 2.8 In 1978-79 the percentage change was nearly zero. In 1979-80 the percentage growth was negative, its value being 8.9. This has also its impact upon the exports of cement. The cement exports had dropped from 8.64 lakh tonnes in 1976-77 to 30,000 tonnes in 1979-80.

Except for two years, i.e., for 1975-76 and 1976-1977, the percentage change in the production of cement in the 70's was either insignificant or negative. This has

been due to lack of adequate infrastructural facilities like coal, power and transport and sluggishness of demand. The progress was unimpressive also due to the inhibiting effect of control over prices and distribution. In 1973 the Tariff Commission recommended a retention price which was supposed to yield a return of 14% on capital employed. This recommendation was accepted by the Government on 9th April, 1975. The Government also accepted the principle of escalation for four major items of cost, namely, power Tariffs, price of coal, freight on coal and wages and dearness allowance. The Lav Raj Kumar committee appointed in 1976 recommended a 12% return in place of 14% on capital employed as recommended by the Tariff Commission. A quarterly revision in prices of cement taking into account major items of cost was also recommended by the committee. If the escalations were not large the revision was to be undertaken once in six months. But when these recommendations were examined by the Government the Government opted for a yearly revision. The Government adopted a three-tier pricing policy on the basis of the BICP's report submitted at the end of 1978. Under this policy separate retention prices were fixed for high, medium and low cost units to ensure a post-tax return of 12% on the net-worth at 85% capacity utilisation. These adjustments in retention prices and formula of post-tax return on net-worth did not yield the desired results. The adjustments in retention prices were inadequate affecting the probability of even the efficient units.

The recovery of 80's

Since 1980-81 there has been a recovery in the production of cement. During 1980-81-1987-88 the cement production showed a continuous rise, though the increasing trend in growth was not consistent. The percentage growth has varied from 5.49 to 16%. Since 1980-81 the highest percentage growth has been achieved in 1983-84.

There were several causes for this uptrend in the production of cement in the 80's.With effect from 3rd May, 1980 the Government allowed an increase of Rs. 13.65 per tonne in the retention prices of cement. Again in May, 1981 an increase of Rs. 34.74 per tonne in retention prices of cement was allowed by the Government. In April 1981 the Government appointed the Cement Development and Price Review Committee under the Chairmanship of Dr. A.K. Ghosh. This committee recognised the need for generation of a good portion of the required resources internally for implementing modernisation and rehabilitation schemes. It has felt that a dual-pricing policy should be introduced. On the basis of the recommendations of this committee a dual pricing policy was announced by the Government in March 1982. Under this policy the cement industry has to give 66.6% of the installed capacity to the Government as levy cement and the remaining be sold in the open market as non-levy cement. The sick units and the units starting production after January, 1982 were to give a 50% of the installed capacity as levy cement. But later it was reduced to 37.5% in the first year of their operation, 47.5% in the second year and 50% in the third year. All mini-cement units except those and 50% in the third year. All mini-cement units except those established by the MRTP houses were free from price and distribution control. The scope for earning large profits due to free-sale quotas and a pronounced incrase in consumption even at higher prices for levy as well as non-levy cement encouraged even the profitably functioning non-cement units to enter into cement manufacturing. Also the existing cement units have executed modernisation and expansion schemes, besides establishing new units. As a result of the improved profitability, 15 mini-cement units came into operation in 1984 with an installed capacity of 6.23 lakh tonnes. The special concessions granted by the Government for promoting these units led to the establishment of numerous vertical shaft kilns. Introduction of dual pricing policy has resulted in an increase in the production capacity of the dry process units. The modern dry process kilns have huge capacities as compared to the uneconomic size of the wet process kilns. Technology has advanced in recent years so that single stream plants were being contemplated even where the capacity is one million tonnes annually.

But after 1984-85 there has been erosion of profitability because of the disappearance of the euphoria over the dual pricing system and disinclination of the Government to effect suitable adjustments in the levy cement prices for offsetting an escalation in cost. The big increase in excise duty and uncompensated increases in cost affected the profit margins. Rise in the investment costs and fall in the price of non-levy cement has put new companies which started production during 1982-85 in dire financial straits.

Change in policy

There has been a change in the policy with regard to the cement industry recently. The control on cement was removed with effect from Ist Mar, 1989. The producers of cement feel that this will create new problems to the industry Hence they are demanding financial assistance to the extent of Rs. 500 crores from banking sector. The cement producers' Association is of the opinion that it is necessary to impose moratorium on the repayment of loans and interest by Public financial institutions and reduce the interest rate by 2%. Otherwise the industry will become sick. The gap between supply and demand will be the cause for this problem according to the Association. The Asssociation requested that the provision given to the Fertilizers Industry should also be given to the cement industry by adjusting the limit of cash credit. Since thee has been a change in the policy recently the future prospects of the cement industry cannot be predicated. □□□

Black gold: higher production needed

Dr. Badar Alam Iqbal

The ups and downs in coal production and supply affects the productivity in many other industries like steel, power, railways, cement, fertilisers etc. In this article the author analyses the various constraints affecting coal production. He winds up saying that the need of the hour is to take short term as well as long term measures to reduce the gap between demand and supply so that interlinked industries keep pace with productivity targets thereby ensuring overall development of the country.

IN INDIAN ECONOMY, COAL OCCUPIES a position of importance not only as a major source of energy for the key sectors like steel, power, railways and cement, but also as a feedstock or the production of agricultural inputs such as pesticides, insecticides and manures. India is very fortunate so far as coal reserves are concerned. But the quantum of good quality cooking coal needed for steel mills is very limited. Recently several coal based super thermal power plants have been established in India. According to latest data ava .able on the coal deposits, India has 11,000 million tonnes of coal and 2,100 tonnes of lignite.

Nationalisation of mines

In 1971 the Government of India took a bold decision to nationalise all the private owned cooking coal mines except those belonging to M/S Iron and Steel Company and Tata Iron and Steel Company. The step was taken mainly for conservation and proper development of cooking coal reserves which were being depleted fast because of unscientific mining. The nationalisation was also considered necessary for meeting the increasing demand of cooking coal to cater to the needs of one of the most important industry of India i.e. Iron and Steel Industry. An autonomous corporation known as Bharat Cooking Coal Limited was established to manage, restructure and modernise the nationalised coal mines. In 1972-73 the Government of India also nationalised non-cooking coal mines. Another autonomous public sector undertaking in the name of Coal Mines Authority Limited was also formed to deal with all nationalised coal mines as well as mines of National Coal Development Corporation.

Before the second nationalisation of 1973, the production was not carried on scientific lines, resulting in huge wastage Unhealthy working conditions for workers and ineffective distribution system were the main problems to be looked into on war footing. Thus, in order to step up the productivity of coal for meeting the increasing demand from rapid industrial growth and also due to alarming rise in the prices of crude oil, the Government of India made serious efforts to augment the coal output during 1977-78 leading to a termporary glut in coal supplies. Efforts were also made to persuade the textile units to use indigenous coal instead of furace oil. Some of the important users like steel, power, railways, cement, fertilisers increased their capacity further resulting in dis-equilibrium between demand and supply.

Objective of nationalisation

The primary aim of nationalisation was to ensure adequate supply of quality coal to the users at a reasonable price. But this particular objective has been totally defeated and the public has been thoroughly disillusioned. There are also serious complaints from the coal consumers in respect of adequacy, timeliness and quality of coal supplies. In Southern India the power and cement units are the worst hit as they were forced to cut drastically their capacity utilisation because of non-availability of coal. Efforts to replace furnace oil by coal resulted in wastage of manpower, material and machine. In the state of Maharashtra scarcity of coal has resulted in a serious power shortage which in turn is leading to curtailment in output in industrial undertakings. The main factor which is responsible for such state of affairs is the continued shortfall in production targets.

Reasons for shortfall

The recent trends with regard to coal production may be seen from table 1. The main constraints responsible for such shortfalls in coal output are labour unrest, non-availability of explosives and other inputs, acute power shortage, transport etc. Added to this, there are inter-union rivalries resulting in avoidable strikes and work stoppages.

In India there are two major producers of explosives. A strike in any of the two plants would certainly affect the supply of explosives to the coal mines. Likewise coal out-put is also affected by shortage of power supply and regular interruptions there in. Not only the recorded rate of growth in power is moderate compared with the previous years, there has been a sharp deceleration in the rate of growth in thermal generation. As against an increase of more than 16 percent in thermal power generation during April-August 1987, the rise in power generation was only nearly 7 per cent in the same period of 1988. The need to improve thermal power capacity and generation is therefore crucial and increasing the availability of coal will go a long way in the said direction.

From 114 million tonnes in 1980-81, the coal output went up to nearly 180 million tonnes in 1987-88. However, during the period under reference, the actual production performance remained short of targets (table 1). For 1988-89, the targeted coal production is 196.3 million tonnes Recent trends in coal sector can be seen from table 2. Coal India Ltd. (CIL) is to contribute 170 million tonnes and the balance is to come from Singerenni Colleries. On a pro-rata basis, the quarterly total output works out to 49 million tonnes and for CIL the corresponding production target stood at 42 to 43 million tonnes However the production of coal by CIL was about 36 million tonnes during April-June 1988, which was only marginally higher than the output in the corresponding quarter of last year.

Though there has been an appreciable increase in the output of CIL, SCCL and others in recent past, the over all coal production is still marginally short of target. The performance of SCCL was affected by labour strikes, breakdown of machinery, absenteeism and power shortage problem.

Taking into consideration the possible drawal from stocks and the need to import superior cooking coal to meet the steel plants requirments, the target for coal ouput in 1986-87 was fixed at nearly 167 million tonnes. The actual production was fairly close to this target at 165.8 million tonnes. While the overall performance of CIL has been satisfactory in 1986-87 in as much as it exceeded the target of production, SCCL and TISCO/IISCO/DVC groups were behind the target. Except for, north-eastern coalfields the production of all susbsidiaries of CIL was as per or ahead of the target. Due to the wider gap between movement and supply plans, pit-head stocks, which ought to have been reduced in order to meet the gap between demand and production suddenly increased to 29.4 million tonnes from 26.6 million tonnes between 1985-86 and 1986-87. Coal movement by rail in 1986-87 was 118.1 million tonnes as against the planned level of 120 million tonnes. The daily average loading of wagons in 1986-87 was 13552.

Since 1974-75 total production of coal showed an overall rise of nearly 88 per cent i.e. from 88.4 million tonnes to 165.8 in 1986-87. Similarly despatches have witnessed an overall increase of nearly 87 per cent i.e. from 85 million tonnes to nearly 159 million tonnes during the said period. Likewise, daily average of wagons has shot up to 13.5 thousand wagons in 1986-87 from 8.3 thousand wagons during the period under review. Closing stocks have registered an overall increase of 320 per cent i.e. from 7 million tonnes to 29.4 million tonnes during the period under reference. This indicates that the rate of increase in the total production of coal has been higher than that of the total despatches of coal. This means that low rate of increase in despatches is the major constraint to the present coal crisis. This state of affairs has been due to fall in the number of wagons supplied by the railways and partly due to low rate of growth in daily average loading during the peak coal mining season. The railways carry two-third of the total coal despatches and obviously the shoratage of wagons for coal flow would affect the supplies to the coal users According to a recent survey coal was in short supply by as much as 57 per cent for units in the north India during the first quarter of 1988-89. The survey has also pointed out that this has been largely because of the inadequate availability of railway wagons to transport coal from pitheads. What is more, industrial users have to face the problem of inferior quality of coal having high moisture and ash content This means that the railways' performance has to be improved further. The failure of the railways to supply coal to various consumer's particularly thermal plants has forced the authorities to despatch coal by road, causing an increase in freight charges. Road transport costs nearly seven times more than the railways

Recent trends

Based on the performance in 1986-87 and the demand for coal in 1987-88, the coal production target during the current year has been fixed at 183.5 million tonnes. Of this, the relative share of CIL is 158 million tonnes, SCCL 20 million tonnes and TISCO/IISCO/DVC 5.5 million tonnes. The total demand for coal during 1987-88 is estimated at 192 05 million tonnes The share of power sector demand is more than half of this, the other major consumers being steel, cement, railways, etc. The demand production gap is to be met through drawdown of stocks. The required rail movement of coal is estimated at 122.6 million tonnes

Due to certain concerted efforts for bringing an improvement in the movement of coal by rail, the

availability of coal across the country has gone up to a reasonable extent. According to the avilable data, as much as nearly 124 million tonnes of coal was despatched during April December, 1987 as against 114.3 million tonnes during the same period in 1986. The daily average coal loading in regard to CIL during the period under review stood at 11.4 thousand wagons compared to 10.9 thousand wagons per day in April-December 1986, thereby showing an overall rise of more than 400 wagons per day. The movement of coal from Singareni Collieries Co. Ltd has improved considerably. Loading went up to 1401 per day during April-December 1987 as against 1210 wagons per day during the corresponding period of 1986/

Output in regard to metallurgical grade cooking coal during April-December 1987 was of the order of nearly 20 million tonnes compared to 21.35 million tonnes achieved during the same period of 1986. This means a decline in the output and the same was attributed to short fall in medium cooking coal output in Central Coalfields. Output of washed coal in CIL washeries during April-December 1987 stood at 6 million tonnes compared to 5.87 million tonnes during the same period of 1986. However, this was short of target for the period by 15 per cent.

In 1986-87 nearly 2.6 million tonnes of coal was imported and the figures of the same for the year 1985-86 stood at 2.4 million tonnes. Imports of cooking coal in 1987-88 is estimated to be nearly 2.5 million tonnes. Meanwhile, the average ash content of indigenous coal has declined marginally from 19.4 per cent in 1985-86 to 19.1 per cent in 1986-87. Even though the average ash level is slightly lower, the quality of cooking coal supply varied from day-to-day, with ash content ranging from 17 to 26 per cent. This affects the smooth and efficient operation of blast furnaces and their production

Trends in lignite output

Production of lignite from Neyveli Lignite Corporation in 1986-87 was registered at 7.13 million tonnes from the first mine and 1.42 million tonnes from the second mine. This was higher than the targeted level of 6.5 million tonnes from the first mine and 0.9 million tonnes from the second mine. Added to this, the lignite mines of Gujarat Mineral Development Corporation produced 1.1 million tonnes in 1986-87 compared to 0.92 million tonnes in 1985-86. The target for lignite output for Neyveli during 1987-88 has been fixed at 9.15 million tonnes, 6.5 million tonnes for the first mine and 2.65 million tonnes from the second mine. The Gujarat Mineral Development Corporation is also expected to augment its output. The production of lignite from Neyveli Lignite Corporation during the first nine months of 1987-88 stood at 7.01 million tonnes compared to the production of 5.72 million tonnes in the same period of 1986-87. This was higher than the target level of 6.47 million tonnes for the period, by 8.3 per cent.

Table I

Trends in coal production 1980-88

(Million Tonnes)

Year	*Target*	*Actual*	*% shorfall (-) excess in acutal production over target*
1980-81	114.5	114.0	-0.4
1981-82	124 0	123 2	-0.2
1982-83	133 0	130.5	-1.9
1983-84	142.0	138.2	-2 7
1984-85	152 0	147 4	-3.0
1985-86	154.5	154.2	-0.2
1986-87	166.8	165.8	-0.2
1986-87	166.8	165 8	-0 6
1987-88	183 5	176.8	-2.0
1988-80 (T)	196.3		—

Thus the need of the hour is to take short term as well as long term measures to reduce the scarcity of coal. Long term measures should include a proper linkage between power stations and coal mines as well as the development of necessary rail capacity for effective supply of coal. Short term measures can be

TRENDS IN COAL SECTOR

Million Tonnes

S.No	*Item*	*1984-85*	*1985-86*	*1986-87*	*April Dec. 1986-87*	*April Dec. 1987-88*	*Percentage Change 1985-86 / 1984-85*	*Percentage Change 1986-87 / 1985-86*	*Percentage Change 1987-88 / 1986-87*
1	2	3	4	5	6	7	8	9	10
1.	Production								
	(i) CIL	130 8	134 1	144.8	97.7	108.3	2.5	8 0	10.8
	(ii) SCCL	12 3	15 7	16 6	11.9	12 9	27.6	6.7	8.4
	(iii) Others	4.3	4.4	4.4	3.3	3.2	2.3		3.0
	Total	147 4	154 2	165 8	112.9	124 4	4 6	7.5	10.2
2.	Pit-head stocks (year-end)	29 2	26 6	29.4	21 9	26.3	8.9	10.5	20.1
3	Despatches	135 5	151 0	158.7	114.3	123 6	11.4	5.1	8.1

* April-December $-Provisional   No Change

(Contd. on page 23)

Evaluation studies and follow-up action

R.K. Parashar

EVALUATION STUDIES PROVIDE FEEDBACK But a feedback which is not acted upon is of little value. Therefore, quick and effective follow-up action has to be taken on it, that is, on findings and recommendations thrown up by an evaluation study.

Findings and recommendations

The findings that emerge from the analysis of the data and qualitative observations, and the recommendations that are made on the basis of these findings, should have a visible profile and place in an evaluation report.

Secondly, a separate chapter in the form of summary of findings & recommendations of the report should be provided at its end Further, at the end of each finding/recommendation, the chapter and its paragraph number, where a particular finding/recommendation occures, should also be given to facilitate cross-reference to the text for a reader who might like to do so

Agencies for follow-up action

The evaluator at the end of each recommendation, should give in parenthesis the name of the agency/agencies which is/are concerned with the recommendation and is are reponsible for taking action on it. Further, he should send a copy of the evaluation report to all agencies responsible for reviewing the recommedations and taking action on them. In fact, the Project Director in his forwarding letter should draw specific attention to the recommendations on which action is to be taken by the concerned agency. This procedure is found to be quite effective.

Bringing out action points

A good evaluation report must bring out sequentially and sharply its findings and suggest the possible action which the evaluator has in mind in respect of these findings. This will add to the quality of the report

Recommendations and action points

The evaluator should examine his data afresh and see if it is reliable and representative of the situation. Once assured on this account, he should keep in mind that the action points or corrective measures, which he is suggesting on the basis of the findings, are relevant to the situation, are practical and lend themselves to implementation.

Financial ceilings

All programmes and projects have to be carried out within given financial ceilings. However, in case the evaluator feels strongly and justifiably that it is in the interest of the programme that larger budget outlay should be provided for it so that recommendations made by him in the report can be implemented, he must bring out the justification for it; include the name of funding agency in the list of those concerned with the follow-up action on the report, and make sure to send a copy of the report to this agency.

Discussion with evaluator

The programme implementors and other agencies concerned with follow-up action must put the same interpretation on the recommendations as meant by the evaluator who has drafted the report. It, however, does not always happen. Therefore, after the copy of the evaluation report has been sent to the agencies which are required to take the necessary follow-up action, the latter should invite the evaluator for a discussion session with its officers. This will help clarify issues, lead to clarity in thinking on the line of action and facilitate the taking of the action itself

Monitoring of Follow-up action

In the case of programmes like Integrated Rural

Development Programme, National Rural Employment Programme, etc., which continue to be implemented over a number of years, it often becomes necessary to carry out repeat evaluation studies. However, not all programmes are of long duration. In any case, it is of little use to know after a lapse of years, whether any action was taken on the recommendation of an earlier evaluation report. What is more practical and effective is to monitor the action taken by different agencies on the recommendations of the evaluation report. The progress of the follow-up action should be monitored by the programme sponsoring administrative agency itself. Monitoring not only tells the progress of the follow-up action, it also helps to speed up the follow-up action.

It is interesting to note here that the very fact that a programme is being evaluated leads to improvement in its implementation during the evaluation process itself, i.e, even before the evaluation report is out.

Submission of report

While submission of an evaluation report may be a culminating step in evaluation methodology, the procedure adopted in its finalisation and submission is instrumental in the taking of follow-up action on it and the quality of the follow-up action While at the Centre, the Programme Evaluation Organisation (PEO) seeks to obtain action on its reports by bringing the findings and recommendations of its reports to the knowledge of media, parliamentarians, academicians, policy makers and others, in other words indirectly through the tool of public opinion, at the State level, the State Evaluation Units (SEUs) seek to ensure action on their reports by making administrators and programme implementors a party to the evaluation findings and recommendations; in other words, through the direct method of their participation and active involvement. Even though the two approaches seek to obtain the same objective, viz., action on evaluation findings and recommendation, each has its merits especially in the environment each seeks to obtain its objectives At the Centre, in the case of the PEO, the findings and recommendations tend to be all-India and inter-regional in character and not necessarily representative of each State covered under the study. In view of it, it might not serve any useful purpose to send its draft reports to officials in each State (as done by the SEUs) for their comments, etc, before the report is released Also, it might not be fruitful to send the draft report to the officials at the Centre for their comments, etc. either This might lead to pulls and pressures to soften or heighten a particular finding and the recommendation based on it Therefore, such a procedure is most likely to backfire and do unredeemable damage to the credibility of the PEO as an organisation which is objective in its work and beyond the pale of partisan thinking. On the other hand, an SEU might stand to lose the advantages inherent in its approach of finalisation and submission of its evaluation reports in consultation with the departments concerned.

Both the approaches, viz., that followed by the PEO at the Centre and that adopted by SEUs at the State level, also have certain drawbacks specific to each. There is, for example, nothing in the PEO approach which would ensure that action on its report would be taken. Also, unless a programme is going very well, those involved with its formulation and implementation might scuttle getting it evaluated by the PEO becuase of the fear that the PEO might bring out the shortcomings of the programme and that, in turn, might affect their future career prospects. The approach followed by SEUs is time consuming in as much as it requires obtaining the comments of the sponsoring agency on the draft evaluation report and thereafter discussion of the report and its approval by the State Evaluation Committee. This process often results into 6 to 12 months of extra time required for the preparation and releasing of an evaluation report by SEUs The PEO, instead, is generally able to release its reports as soon as these are finalised.

Recommendations

In the light of the foregoing examination the following recommendations are made to enable quicker and more effective follow-up action on evaluation reports brought out at the Central and State levels in India.

(i) At the Central level, since all PEO reports generally have a chapter which gives the summary of their findings and recommendations and also the name of the agencies which are required to take action on these, it may be made obligatory on the part of these agencies to report to a designated agency the action taken or proposed to be taken by them in respect of each recommendation in a report. The designated agency for the compliance report could be the subject-matter of Union Ministry of the concerned Division of the Planning Commission. A copy of this compliance report could be sent to the PEO for its information, etc.

(ii) Since PEO reports are taken on face value because of their objectivity, which in turn is related to absolute freedom and autonomy enjoyed by the PEO in its functioning, nothing, nothing whatsoever, should be done by the Government to undermine this freedom and autonomy of the PEO in its working If anything, steps should be taken to safeguard and guarantee this freedom and autonomy. To this end, the administrative control over the functioning of the PEO should be the function of Adviser (Evaluation) who heads the PEO The Planning

Commission should have no say in the matter. The PEO's budget, especially of travelling and library, should be strengthened. The expertise developed by the PEO at the level of Deputy Adviser and above should be conserved and not squattered away through parallel transfers, etc. Infact, it might help to reorganise the PEO as a wholly autenomus body. Allowing greater freedom in its working may help the PEO to utilise its expertise better and more fruitfully.

(iii) In order to enable the PEO to make optimum use of its field staff, i.e., to enable it to use it round the year, its senior, project director level manpower at its headquarter should be strengthened so that is should launch larger number of evaluation studies in the field each year. From this point of view, it is imperative that the Dubashi Committee Report is implemented in letter as well as spirit and not side-tracked and watered down as has been done at present. The outlook and approach of an Internal Works Study Unit or Staff Inspection Unit, which are delegated the powers of sitting on judgement on staff requirements, cannot have the sweep and vision of a high-powered committee like that of the Dubash' Committee.

(iv) At the State level, in order to improve the quality of its evaluation reports, it is imperative to improve the quality of manpower available in different SEUs. From this point of view it is necessary that SEUs should be separated from State Directorates of Economic and Statistics where it is not so and the status or Director of Evaluation upgraded to the level of Director of Directorates of Economics and Statistics.

(v) The composition of State Evaluation Committee, which approves State evaluation reports, should be broad-based including public men as members on it and making a non-official as its chairman. In their present bureaucratic composition, these committes have not been effective. Also, a statutory provision could be made providing for a minimum of one meeting of the committee every two quarters. It may also be made obligatory on the part of the sponsoring department to send its comments on evaluation reports within a stipulated period of say two months and in no case beyond a time limit of three months from the date of receipt of the evaluation report by it.

(vi) Evaluation findings and recommendations and the action taken on them by a department, whether at the Centre or at the State level, should be taken into account in taking a view on the department's annual plan.

(vii) Finally, there should be a forum which could discuss all evaluation reports commissioned by different government departments and the action taken on these every year about the time annual plans are finalised.

(Contd. from page 20)

speedy movement of avilable coal to steel mills, power stations, cement plants, fertiliser factories etc. Import of explosives and installation of big power units for coal mines must be taken up so as to maintain production level in all the industrial units of the country.

The Ministry of Energy should also take steps to import plants (thermal) to generate substantial power at least for coal washeries. The Central Government should also adopt a liberal policy for the import of essential inputs required for the coal sector. The central Government in consultation with the concerned authorities of coal sector should formulate an effective and efficient strategy for analysing and solving the transport problems of coal sector.

Enhancing coal production to a level of 200 million tonnes by the end of 1990 from the existing level would be the most challenging task for the coal sector. This growth rate if achieved would be one of the fastest in the world. This, therefore, calls for sustained and coordinated efforts. The first and foremost task before India is perspective planning for the inputs required for the achievement of the output task and consists of planning for future demand machinery, power, arrangements for coal transport to various consumers, availability of basic construction material like iron and steel, cement and explosive and training of management staff and technicians. The volume of work load in prospecting, planning, designing and reorganising is tremendous especially considering the low level of these activities in the past.

Besides there is another constraint of required capital for the development of coal mining. It is estimated that huge capital would be needed if we are to achieve the target of 200 million tonnes by the end of 1990. Therefore, in the years between 1988-89 and 1989-90 substantial finance would be needed. The Ministry of Energy itself found that a total of 3000 crores would be required to attain the target. Thus in order to meet the capital requirements of the coal industry adequate finance should be made available in the plan for the current year and for the next year. The necessary resources must also come from within the coal industry itself.

Though Government revenue has been the major source of finance, assistance from international bodies together with fund-linked technological assistance from foreign governments will play an important role in the development of the coal sector

Art Silk Weaving industry of Surat

Minakshi Thakar

With the ever growing population and stagnancy in acreage in cotton cultivation the art silk weaving industry is bound to be the alternative for meeting the clothing requirements of the masses. Keeping this in mind, the Govt. should come in a big way to assist the development of the industry. The twin problems of the shortage of raw materials and and proper marketing avenues should be tackled on priority basis so that the industry becomes viable and competant to meet the demands of the day.

SURAT IS THE BIGGEST CENTRE of Art Silk Weaving Industry in India where more than One Lakh Art Silk Powerlooms are functioning which account for about 50% of the total art silk Powerlooms working on filament yarns in this country. On an average 30 lakhs Meters of Art Silk Cloth per day is being produced at this Centre. This Industry has played a phenomenal role for the cause of Industry's development for the nation and it is beyond doubt that the self accomplished progress of the Industry has attracted the attention of the everchanging world to this decentralised Industry at Surat.

Early history

The existence of the Industry in Surat dates back to 1925. During the Mogul reign on account of perfect trade policy the Kinkhab weavers of Surat were artisan themselves producing intricate designs on handlooms with Silk and Zari. At that time a large number of handlooms were functioning at this centre and raw silk as well as *Zari threads* were the main raw materials for manufacturing of textiles. Gradually with the invention of electricity, young entrepreneurs engaged in this industry installed the powerloom discarded by the Cotton Mills and commenced production after certain modifications so as to make them suitable for manufacturing pure silk fabrics and with this changeover, the production increased rapidly, the quality improved signifiantly, physical labour and strains were reduced to some extent and ultimately resulted in higher earnings for the powerloom weavers. In fact the Industry's structure resembles to that of the Cottage Industry System prevalent in Japan. It is a domestic industry where there are 12,000 units and the members of the family with the help of few workers usually maintain themselves by operating on an average 9 powerlooms each. Thus, the powerlooms are more or less being dispersed into small decentralised units. There are different types of powerlooms, plain looms, Dobby looms, Jacquared looms and Ribbon looms etc. and the average reed space is 55". The average life of the powerlooms is around 12 years and the majority of the looms are Dobby looms. The Industry made phenomenal progress during the short span of over two decades. Distribution of the looms is as under.

(i) Units having upto 10 powerlooms ... 66%
(2) Units having more than 10 but less tan 50 powerlooms ... 29%
(3) Units having more than 50 powerlooms . 5%

Growth

Between the years 1955-57 with the advent of protection offered to this Industry by way of heavy duty on import of Art Silk fabrics, the powerloom Industry gradually grew into a small nucleus with total installed capacity of 12,000 Powerlooms in Surat and by the time the second world war broke out, the Industry was yet in its infant stage. Though development of this Industry advanced slowly and steadily till 1944, the Industry in Surat has achieved a spectacular progress during a short span of two decades on account of impetus received by it due to the above factors and today it has gained an important place not only in the industrial map of the nation with nothing less than, 1,0000 Powerlooms humming in the city and sorrounding areas but has also earned a world wide reputation.

The Industry annually consumes 25,000 tonnes of Nylon & Polyester Filament Yarn worth Rs. 400 crores, 25,000 tonnes of Staple & Synthetic mixed Spun Yarn worth Rs 80 crores and Rs. 20 crores worth

of Jari, Lurex, Cotton Yarn, etc. Thus, annual consumption of Man-made Filament Yarn at this centre is worth more than Rs. 600 crores. Moreover, apart from the One lakh Powerlooms operating at this Centre, there are 135 processing houses in which capital investment involved is Rs. 250 crores. Therefore, about 70% of the Industry's Grey production is being processed locally and about 15% is sent to other Centres like Bombay, Ahmedabad, Amritsar, etc. whereas the remaining 15% is either handprocessed or sold in Grey condition. Unlike Cotton Mills who are in organised Sector where spinning of yarn, weaving of fabrics, processing and marketing thereof is being done under one roof, the pattern of production and marketing Art Silk Fabrics is horizontal where grey fabrics are woven by small powerloom owners, the independent processers finish the same on job basis and the production is mopped up for marketing through merchants.

The margin of profit to a small weaver manufacturing grey fabrics stands considerably reduced on account of several intermediaries involved till the product is ultimately marketed by the merchants who are large in number and the ratio of profit is determined when the fabrics are sold in the market by the merchants who actually reap the benefit of profit.

Problems of the industry

The Art Silk Weaving Indsutry has been often facing acute shortage of raw material viz. all types of filament yarn and the problem of prime importance is the one relating to wide fluctuation in its cost and distribution. The small weavers who purchase their day to day requirements on account of inadequate finance, have to depend on few large indsutrial houses who are manufacturing such types of yarn. The demand for Art Silk Yarn has generally remained much more than its supply and the market rates have generally remained high and widely fluctuating. This state of affair leads to high prices of raw material required by the Weaving Indsutry. In order to bridge the gap between demand and supply and also to supplement Indigenous production to some extent, import of Art Silk Yarn has been allowed ever since 1977 under O.G.L. It is true that imports do not supplant but supplement indigenous production of yarn, but the time lag involved in actual import after entering into a firm contract with the overseas suppliers is about 3 to 4 months and in order to keep the Powerlooms running, the weavers in decentralised Sector cannot afford to wait for covering their requirements of indigenous yarn. The Weavers Co-operatives are also considered as commercial organization by the scheduled banks and as such the facilities are granted on the basis of their assets. There is, therefore, a limitation of import by such Co-operative Societies which also results in the facts that small weavers are not in a position to take immediate benefit of import even through their Co-operatives.

Suggestions

In times of scarcity of raw materials, while its free import is one way of mitigating the hardships of the consumers, the other way would be to devise a scheme for distribution at fair price of indigenously produced raw material so that the same is not cornered by the few, with the view of exploitation of the users. The Industry has therefore time and again requested to evolve a scheme whereby the distribution of the available raw material is made in a regulated and controlled manner at pre-determined price. At the Powerloom's Convention held at Ichhalkaranji, the then Commerce Minister advised the weavers to have a long term tie up with the indigenous spinners of Art Silk Yarn to ensure regular supply at fixed price and the weaving Industry immediately reacted by accepting the proposal and submitted a scheme under which Association/Societies of Weavers would make a firm financial commitment through a Bank to pay and take delivery of the specified quantity of yarn at a spcified price but the Government's own proposal was dropped without assigning any reason Another constraint on the import is High Tariff protection given to the indigenous spinners by the Government as result of which imports have not been able to augment the supply of yarn and the imports have shown a declining trend as will be seen from the following table:—

On account of change in the fashion trend and diversification in the pattern of production, small powerloom owners have also started using Polyester Filament (yarn) and texturised Polyester yarn for manufacture of fabrics like Sarees, Suitings, Shirtings, etc. and as such the consumption of Polyester Filament Yearn has increased tremendously and have surpassed all the forecasts of the Planning Commission for the Sixth Five Year Plan Estimates. The Industry has therefore submitted representations giving rationale for allowing additional capacity for manufacturing of all Synthetic Filament yarns in general and Polyester Filament Yarn in particular by small units with 3-4 tonnes capacity in Co-operative Sector. The Weavers Co-operatives have applied for setting up Mini-Plants for manufacture of POY as well

Imports

Description	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84
Viscose Rayon Yarn	4,424.10	3,299.81	2,034.79	1,521.51	5,199.75	4,818.35
Nylon Filament Yarn	5,183.54	2,181.51	985.43	420.87	519.96	2,029.88
Polyester Filament Yarn including P.O.Y	6,946.75	6,753.96	9,187.65	9,136.51	13,349.95	6,211.93

(Contd on page 32)

Nuclear accidents

Shibdas Burman

ON 26 APRIL 1986, IN THE WAKE of nuclear power excursion, fire in the graphite moderator and explosion at Chernobyl, man has once again learnt the ambivalence of major scientific effort– the modern science and technology are not unmixed blessing. This is the bitter-sweet truth of life Sweet has been its impact in addressing the problems of alleviating the miseries of life. And, bitter, too, the result has been – think of Hiroshima, think of Bhopal gas leak, think when you breathe next of Chernobyl and the jolt to the dream of progress. The accidents do confirm Dr. Johnson's observation that men more often need to be reminded than taught.

The spate of industrial disasters in quick succession-Bhopal, the Challenger, Chernobyl-has shaken people's faith in *Viswakarma*, the ancient Indian technological god-the god who was trusted not to fail. Are these unthinkable happenings a part of Nature– a mixture of order and haphazardry, of a world where your find both garden and wilderness ? How did the accidents happen ? Is there a common thread ? Do they show the failure of a technological elite who will compromise professional standards to meet schedule economy or production goals ? Can the world never be made risk-free and is Murphy's law-if something can go wrong, sooner or later it will go wrong-destined to be the winner ? Will technology always extract some costs while providing greater benefit to society ? In all the cases there has been blame to go around

The need for eternal vigilance is a lesson to be learnt from these incidents If Chernobyl and the other accidents have shown anything it is that the ultimate safeguard will always be the constant application of the highest technical standards and management efficiency on an uncompromising day-to-day basis.

One of America's foremost nuclear scientist, Alvin Weinberg once described nuclear power as a 'Faustian bargain' In exchange for electricity, the world accepts the eternal risks of radiation and radioactive waste. The cost to the Soviet Union for the Chernobyl accident has "soared well above" Moscow's original estimate of two billion roubles (about $ 2.9 billion) On the basis of extrapolations from initial Soviet estimates, Lynn R. Anspaugh et. al reports in Science, 16 December 1988, that direct and indirect monetary costs may reach $15 billion.

Combination of circumstances

Accidents happen because of a combination of one or more human errors with equipment malfunctions. Between 1977 and 1979 there were 20 incidents involving partial or complete loss of feedwater at Davis-Besse in US. On 9 June 1985 the PWR (Pressurised Water Reactor) at Davis-Besse was left for 12 minutes without feedwater to carry off heat from the reactor On 21 November 1985 an electric circuit at the San Onofre-1 failed, cutting off power to the control room for four minutes The likely causes were poor maintenance, poor valve design, and poor valve testing procedures, the Incident Investigation Team reported The Ginna (US) accident on 25 January 1982 was due to a small break in the steam generator leading to a loss of coolant

In case of the Davis-Besse accident of 9 June 1985, the US Nuclear Regulatory Commission (NRC) noted that the underlying cause had been Toledo Edison Company's "lack of attention to detail in the care of plant equipment." Edward J. Markey, chairman of the US House Subcommittee on Energy Conservation and Power, called the Davis-Besse accident "one of the most serious nuclear mishaps since the 1979 accident at Three Mile Island "

The accident at the no. 2 reactor at the Three Mile Island (TMI) in US in 1979 was one of the most famous ones before the Chernobyl disaster. The US President's Commission of enquiry identified the root problems at the TMI accident as being 'people-oriented', rather than related to deficiencies in plant design or equipment, though these too were present and involved in the event

The contributory cause of the Chernobyl accident was the negligence on the part of the power plant staff The Chernobyl reactors have an instability known as "positive reactivity coefficient" In such a reactor if the temperature rises, it results in rising reactor power and temperature In case of Chernobyl there were (a) faults in the concept of the reactor (inherent safety not built-in), (b) faults in the engineering implementation of that concept (insufficient safeguard systems) There were in

addition (c) failure to understand man/machine interface, and (d) poor operator training.

Chernobyl had a positive fallout effect—it spurred organised worldwide collaboration between utilities to raise the level of nuclear operations everywhere to the level of the best. 'What a pity', lamented Lord Marshall of UK, 'that it has taken the tragedy of Chernobyl to convince us that we are all hostages to the weakest performer.' Chernobyl made us realise that nuclear accident anywhere is a nuclear accident everywhere.

On US experiences, the General Accounting Office (GAO) report in September 1985 has the following to say: Although studies of accidents in the United States have more often faulted plant operations rather than equipment failure, the Office of Technology Assessment has reported hardware malfunctions in virtually every system, including control rods, steam generators, coolant pumps, and fuel rods. It reported that the majority of these hardware problems have been resolved, but some still persist and others continue to surface It also concluded that the discovery of new problems and slow resolution of old ones continue to erode the confidence in the safety of light water reactors (LWR).

Human failures

Human failure has many causes. It may stem from an individual's temperament or from his lack of training and knowledge. At Chernobyl the operators thought they were doing an electrical experiment oblivious of the nuclear part. In case of TMI-2 incident the staff turned off the emergency core cooling system (ECCS) because of wrong interpretation of signals concerning the status of the reactor The fire in the graphite moderator which occurred in the pile 1 at Windscale, UK, in October 1957, took place during a routine Wigner energy release. When the graphite moderator is bombarded with neutrons from a fission process, some atoms are displaced from their equilibrium lattice sites into higher energy positions This has the effect of storing energy, known as Wigner energy, particularly at the low irradiation temperatures at which the piles were operated. This incident, which could have been disastrous, happened because of the inadequate knowledge about the conditions under which such energy could be released (ATOM, December 1987).

The human error can arise from the wrong interpretation of the operator's priority or that of his organisation. The management of the organisation, its attitude to safety vis-a-vis the corporate goals of production, meet the schedule etc. play a vital role. The management's attitude gets unconsciously printed on the psyche of the workers.

Table 1 lists causes of IAEA-IRS (incident reporting system) incidents in nuclear plants. Several of the causes come under the term Human Failure.

Table 1

Distribution of Causes of IAEA-IRS Incidents*
Total number of IRS Reports Examined: 196

Cause of Incident	*Percentage*
Design Deficiency or Error	18.7
Operational Error	17.5
Corrosion	10.7
Maintenance Deficiency or Error	10.3
Installation Deficiency or Error	8.0
Other Fluid Hydraulic Effects	7.6
Ageing	7.2
Causes External to plant	5.6
Fabrication deficiency or error	4.0
Procedural Deficiency or Error	4.0
Environmental Influence	2.4
Violation of Operating Technical Specifications	2.0
Loose parts	2.0

*The initial IRs stands for Incident Reporting System
Source. IAEA (IRS) meet, 6-8 April 1988

[illegible] LWRs

The light water reactors (comprising of both pressurised water reactor and boiling water reactor) are, according to some experts, more hazardous than the pressure tube type reactor plants (Chernobyl RBMK type plant, Candu reactors). The reasons are:

1. The use of a large pressure vessel in the PWRs and BWRs has the potential of a catastrophic explosive rupture Against this single failure event there is no protection.
2. The bunching of fuel rods in a LWR concentrates the fuel to maximise the heatup temperatures of a fuel meltdown.
3. The containment of a LWR is *not* designed to withstand any reactor accident possibility involving fuel melting, hydrogen explosions or burning, steam explosions, or steam over-pressure

Of interest will be note the view of John F. Ahearne who believes that the effect of Chernobyl will be to *eliminate all conventional light water designs* for future use in the United States.

[illegible] reactor

The Candu reactor system developed by Canada and used in several countries poses a challenge to the Light Water Reactor systems. The use of pressure tubes in Candu reactor provides a major advantage as a break in one or several pressure tubes has far less serious consequences than a break in a large pressure vessel.

The reactors incorporate two diverse, full capability shutdown systems. Each system is provided with two diverse tripping parameters for each accident situation. Ultimate core meltdown in a Candu reactor

is less possible than in pressure vessel reactors because of three separate and independent heat sinks, viz., emergency core cooling, moderator, and shield tank water. The Candu reactor was described by Edward Teller as "really remarkable" and by Hans Bethe as "a technical wonder."

Some countries are trying power generation through the fast breeder reactor route. Canadians believe in the old thesis of W.B. Lewis that breeders are not necessary. Because of Candu's fuel economy and its capacity of being adapted to advanced fuel cycles, including a self-sufficient thorium cycle, Canada does not pursue Fast Breeder Reactor (FBR) research.

Fast breeders raise some fearsome safety concerns: (a) the risk of leak allowing the liquid coolant sodium and water to mix in the heat exchange circuitry with potentially explosive consequences, (b) the possibility of a runaway atomic chain reaction during overheating

It was a mark of remarkable foresight of late Homi Bhabha who based India's nuclear power programme on Candu reactors. Consider that India has very limited fossil evergy resources. There is also the need to face the challenge on greenhouse global warming effects. Taking note of these two ground truths— do not forget for a day the needs of 800 million plus souls for shelter, clothes and food— the long term energy policy of the country may aim at about 20 percent of nuclear electricity, the rest to be provided by a judicious mixture of hydel and thermal power.

Eternal vigilance

Nuclear safety has three major elements-hardware, plant procedures, and personnel— all of which should be constantly evaluated in totality. The plant operators should be as careful as the airline pilots. When things become routine, we all become very sloppy, says Frank Von Hipple. He continues: 'The first team of nuclear age has moved on, and now we are trying to contain a technology that we can't handle on a routine basis.'

The responsibility for the leak of water into the storage tank containing methyl isocyanate gas in Bhopal was placed on a combination of design flaws, operating errors, defective systems, and managerial mistakes. The traditional communications gap between managers and scientists/engineers seemed to have become an unbridgeable chasm in case of the Challenger mishap. The disaster happened precisely because over a period of time, NASA developed a novel notion that because nothing serious had happened yet, the burden of proof for safety was on those who wanted to stop the flight.

The old philosophy that technical perfection is the most important goal in addition to the need for fostering the team spirit among the human elements involved, cannot be sacrificed. Mikhail Gorbachov echos the sentiment in the following words: "The indisputable lesson of Chernobyl to us is that in conditions of the further development of the scientific and technical revolution the questions of reliability and safety of equipment, the questions of discipline, order and organisation assume priority importance. The most stringent demands everywhere and in everything are needed."

Chernobyl— and before that Hiroshima and Nagasaki— has shown how fearsome the untamed power of the atom can be. It has made the dangers of a continued nuclear arms race apparent. ■■■

(The views expressed in this article are those of the author and not of the Organisation where he works.)

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(Contd. from page 10)

country has got reduced from 5.40 in 1980-81 to 5.16 in 1984-85. Similarly, in terms of value added, the standard deviation in respect of various states has got reduced from 5.57 to 5.22 during the same period. The same trend is signified by the coefficient of variation. While the coefficient of variation in terms of output during the period under reference, got reduced from 129.50 to 124.04, the coefficient of variation in terms of value added got reduced from 133.57 to 125.18 during the same period. This clearly vindicates that the variability between States in terms of output and value added has got siginificantly reduced in terms of output and value added during the period between 1980-81 and 1984-85.

On the basis of present statistical investigation, we may accept the hypothesis that inter-state variations in Industrial Development is not significant, otherwise also it is impossible to remove the variation completely. The various policies of the Government i.e., Industrial Licensing Policies, incentives for location of industries in backward areas, concessional finance to industries for locating industrial units in backward districts, central Investment Subsidy Scheme, Transport Subsidy Scheme, various special incentives given by various state governments and treating regional dimension of development as an integral part of the Seventh Plan, seem to be in the right direction, but still the need is to acclerate the process of this convergence among the states. For this indsutries with higher linkage effects should be indentified and developed, and for all types of incentives/financial allocations by all Financial Institutions, the backward districts in industrially backward states should be identified. Moreover, a better course would perhaps be to provide more financial assistance in the backward areas without which industry will not be attracted to these areas on the mere strength of subsidies and concessions. A policy for locating industries near the small district towns which have not been industrialised so for might prove more effective and will also help the general economic climate for growth in each district. ■■■

Corporate 'retained earnings' behaviour

S.M. Gupta

The retained earnings refer to the part of current earnings (net profit after tax) which is not distributed to shareholders but retained and reinvested by corporate sector in a financial year. The retained earnings play an important role in the process of capital formation and economic prosperity of the country. In this article an attempt has been made to study the behaviour of 'retained earnings' in private sector public limited companies in the country.

"RETAINED EARNINGS" ARE THE most vital source of funds for financing of industrial growth. It plays an important role in the process of capital formation and economic prosperity of a country. The conditions of increasing costs of modernisation, replacements, renovations and technical advancements call for a greater effort to conserve coporate savings in a developing country. For instance, as per the seventh plan outlay, the private corporate sector in India is expected to generate about 54 percent of the total outlay from internal sources.

Here, the 'retained earnings' refer to that part of current earnings (Net Profit after tax) which is not to be distributed to shareholders, but retained and re-invested by Corporate Sector in a financial year.

An attempt is made here to study the behaviour of 'retained earnings' in private sector public limited companies in India, for the period from 1975-76 to 1984-85. The focus is to be on analysing the share of retained profits in after tax profits and the allocation of profits (Profit before tax) as well as cash flows.

Data used in this study have been obtained from the financial data compiled by the Reserve Bank of India, for medium and large public limited companies and the period covered is ten years, i.e. from 1975-76 to 1984-85. The study encompasses all compaines sample as well as eight important industry groups, e.g. cotton textiles, engineering, chemicals, cement, rubber, paper, electricity and shipping compaines.

Empirical results

The results show that the retention ratio (Retained earnings/Net Profit after tax) moved between 62.22 and34.87 percent with an average of 53.27 per cent for all companies during the period under review. Industrywise, it is noted that the ratio was high (abover 54 percent) in engineering, cement, chemicals and electricity industries, while in others it is found negative or very low. After analysing the trend percentages of net Profit after tax and retained earnings, it is observed that changes in retained earnings were faster as compared to net Profit after tax, indicating that in most of the industries, dividends decisions were taken first and retained earnings were determined residually. However, when the profits remained inadequate, the past reserves were utilised for distributing dividends.

The analysis also revealed that of the earnings before tax, about 48 percent is paid to the Government, 24 percent to share holders, leavings 28 percent for re-investment in the business by all the compaines. It is observed that while tax provision showed an overall declining tedency (Co-efficient of Regression being 0.92), an increasing tendency is seen, in retained earnings (Co-efficient of Regression = 0.71). However, there was a marginal increasing tendency in dividends pay out ratio (Co-efficient of Regression = + 0.15).

Industrywise, it is observed that the share of tax provision (out of Profit before tax) was above 70 percent in paper industry, between 40 and 47 percent in cotton textiles, engineering, chemicals and rubber industries: and below 25 percent in electricity and Cement industries. It is also found farily consistent in engineering and chemical industries, while a modere consistency is observed in cotton textiles, paper and shipping industries.) However, in cement, rubber and electricity industries, it remained hardly consistent during the period under study.

It is also noted that of the Profit before tax, the share holders claimed, above 45 percent in cotton textiles (45 76) and paper (55.35) industries, 37 percent in rubber and about 20 to 25 percent in engineering, chemicals, cement and electricity industries. It remained farily consistent in engineering, chemicals

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Handloom and Tribal Development: A case study

S.K. Panda

Handloom, says the author, is the most important cottage industry of the tribals and the proper exploitation of its potential can lead to significant improvement in their economic conditions. Modernisation of looms and creation of marketing avenues are the two issues which call for immediate attention to ensure full exploitation of the handloom potential.

DEVELOPMENT OF THE SCHEDULED TRIBES has been one of the main concerns of our planners since Independence Geographic isolation, low level of technology and literacy and relatively poor access to market information have been some of the main constraints in economic development of the Scheduled Tribes. The main approach to tribal development has been based on agriculture, horticulture and silviculture keeping in touch with the age-old tribal customs of *Jhuming'*. Besides, schemes based on allied sector activities, such as animal husbandry, fishery, village and cottage industries etc. are taken up for supplementing the core programmes. Even though village and cottage industries have been considered, it has always been given a secondary role in tribal development. In view of the fact that almost all tribal households do weaving for their own requirements, handloom has got enormous potential in the economic development of the tribals.

Tribal economy is mainly of self-sufficient nature. Every tribal household possesses a loin loom for meeting its clothing needs. Weaving is more of a religious practice, a way of life with the tribals, rather than a source of income. The tribal families grow cotton in their *jhum* fields. The cotton is collected, ginned and spun out with the help of indigenously made tools to produce yarn. The same yarn is used for weaving in the loin loom The tribals normally use vegetable dyes for colouring the yarn. In Tripura, a type of brown coloured cotton is produced in the *jhum* fields by the tribals in the Longthorai and Jampui ranges.

As per the latest handloom census, there are 1,13,454 functional looms in Tripura, out of which 93,155 are non-commercial ones. The non-commercial looms are mainly loin looms, owned by the Tribal households. The type of loin looms as well as the fabrics woven in the looms differs from tribe to tribe. The most common item woven in the loin looms is the "Pachra" which is used by women around the waist. This is similar to the "Puan" woven by the Mizos. Besides, women use a wear of lesser width for covering upper portion of the body, which is called "Risha". Men usually wear "Chadar" which are white and without designs. The normal length of both Pachra and Risha is about 1 7 m Pachra is made by stiching two pieces of clothes of .5 m width lengthwise. Risha is of .3 m width and has more intricate designs than Pachra.

The loin loom is basically made out of a few pieces of bamboo. The main parts of the loom are "Thuri", "Shar", "Nal" and a "Belt" As such a typical tribal loin loom can be assembled with only a few pieces of bamboos and the investment on making such a loom is almost negligible. The loom is very simple and easy to transport It does not require much space nor any elaborate accessories for bringing it to operation. However, the main limitation is the width and length of the fabrics made in the loin looms. Since tension on the warp (tana) is maintained by the weavers' own weight, the maximum length can go upto 5 metres. The normal weight does not maintain necessary tension for weaving clothes of larger length. As regards width, the shuttle is put across by hand on either side, because of which the width does not go beyond 5 metres. This limitation in the length and width restricts the market potential of the proucts. Nevertheless, the peculiarity of tribal handloom lies in its intricate designs, which give uniqueness to the fabrics. Further generation after generation, tribal girls pick up weaving as a traditional skill.

The 'pachra' making scheme

With a view to exploit the potential of handloom for development of the tribals, a "Pachra making scheme" was started in Tripura in the year 1981. Under the scheme, 8 knots (muttahs) of 2/20s count yarn (5 coloured and 3 grey) was given to tribal families initially. The tribal families were asked to weave 3 pieces of Pachras of 1 m. width and 1.7 m length. They were paid wages @ Rs. 6/- per square metre for weaving and 50 paisa per Pachra for stiching. 8 knots of yarn was given back to the family on depositing the Pachras. Yarn was thus used as the revolving capital under the scheme. The Tripura

Handloom and Handicraft Development Corporation was assigned the job of supplying yarn, collecting and marketing Pachras. The main problem faced in implementation of the scheme was in marketing the products. Pachras made under the scheme was mainly given to the Tribals as a part of the wage under the employment guarantee schemes. Besides, it was sold through the retail outlets of the Corporation. Some stock was also used for making garments for distribution among the Bangladesh refugees and for students of the primary schools. However, these marketing outlets were limited, which in turn, affected implementation of the scheme on a continuous basis.

In view of the fact that handloom is the most important cottage industry of the tribals exploition of its potential in a proper manner can lead to significant improvement in the economic condition of the tribals. The fact that an average tribal girl has the basic skill in weaving is a big advantage. However, modernisation of the tribal looms calls for sizeable time and investment. The possible solution lies in going for modernisation in a planned manner At the same time uses of the traditional fabrics i.e. "Pachra and Risha" are required to be diversified.

Marketing problems

Difficulties faced in marketing of the traditional fabrics is mainly due to short width. This can be overcome to a considerable extent by converting it to valueadded products such as, readymade garments, house coat, night gown and furnishing fabrics. Work done in this line on an experimental scale by the Stae Industries department in collaboration with the Weavers Service Centre has shown promising results. It has been found that introduction of "Denim" designs on loin looms provides one possibe solution to the problems faced in marketing the products. With this design, it is easier to adhere to the quality and standard specification, which are essential for any commercial venture. Since only indigo and grey yarn are required for this design, problems faced due to non-availability of yarn of proper colour and count, particularly in the remote areas, canbe overcome to a considerable extent with this design Even Kadi yarn can be used in this fabrics. Market study conducted recently has shown good potential of pants, house coats and night gowns made out of this fabric woven in the loin loom. Similarly" Risha" can be used as Dopattas and scarfs. With acrylic fibre, it can be used as good winter garments. It has been found that a tribal family can earn Rs. 20 to 30/- in a day by weaving this fabric in its spare time. This can also give indirect benefit to sizeable number of tailors in making the garments.

Development of the Scheduled Tribes has been a major challenge to the planners and administrators. Any approach for the development of tribal people and tribal areas is required to be taken due note of their cultural heritage and social moorings. This is essential for ensuraing its acceptability and participation by the tribal people. Because of socio-economic reasons, effective tribal development calls for an integrated approach. Development of the traditional handloom in a proper manner can provide a good and steady subsidiary source of income to the tribal families. It will also ensure protection of the rich tribal culture and heritage, which is perishing under the forces of industrialisation and modernisation. Because of its exquisite designs, tribal handloom can also promote exports and earn valuable foreign exchange for the country. ■■■

(Contd. from page 29)

and all companies sample while it was moderately consistent in shipping and was hardly consistent in other industries.

Hence, after meeting, the above two obligations, namely (Tax Provisions and Dividends), the share of retained earnings remained below 25 percent in cotton textiles (11.33) and rubber industries (22.31) 25 to 50 percent in engineering (33.2) and chemicals (29 62) industries and above 50 percent in cement (52.39) and electricity (55.02) industries. The share remained fairly consistent in engineering and chemical industries, moderately consistent in cement and electricity industries and in rest of the industries, it was hardly consistent or it was inconsistent at all

[illegible]

Earnings of a corporation depends upon the way in which, these are to be measured. As cash flows are real profits for a corporation and are more important for decision making as compared to net profits an alternative approach, based on cash flows has been adopted here for studying the retention behaviour of Indian Corporate sector. The cash flows are estimated by adding amount of depreciation to net profit before tax.

The results of cash flow allocation ratios, revealed that of the total cash generated by all compaines, 29.46 percent paid to the Government as taxes, 15.6 percent to share holders and remaining 55.48 percent retained and re-invested by the private corporate sector, during the period under review. While an overall declining tendency is observed in tax provisions and dividends pay out ratios, an increasing tendency is noticed in retention ratios during this period. However, all the three ratios remained fairly consistent during the period under study.

Industrywise, it is observed that the share of tax provision remained around 30 percent in engineering and chemical industries, between 20 to 30 percent in paper products (24.31), 10 to 20 percent in cotton textiles (16.6), cement (12.7), rubber (18.7) and electricity (17.8) industries and below 10 percent in shipping industries. It remained fairly consistent in engineering and chemical industries while in

others, it remained hardly consistent during the period under review.

However, the share holders claim in total cash flows, remained 10 to 20 percent in all the industry groups, except shipping companies (9.30). This share remained fairly consistent in engineering, chemicals and electricity companies, while in other industries, it remained moderately consistent or inconsistent during the period under review.

The share of retained cash flow is noted highest in all the industry groups, during this period. It's share ranged above 70 percent in shipping (81.97) and cement industries (74.70), between 60 and 70 percent in electricity (66.47), cotton textiles (65.65) and rubber (64.45) industries and between 50 and 60 percent in paper (57.6), engineering (54.22), and chemical (52.74) industries. The share remained fairly consistent in all the industry groups (Co-efficient of Variation being less than 25 percent) during the period under study.

Conclusion

Thus the empirical results of overall retention pattern indicated that corporations tried to stabilize the dividends over a period and any increase in profits after tax due to an increase in quantum of profits before tax or due to reduction in corporate tax burden, went to the retention and re-investment side. At the same time when profits declined or remained inadequate, the past reserves were utilised for paying dividends. It is also observed that constant profit earning industries, maintained a certain retention ratio, but low profit earning industries or loss incurring industries neither maintained a retention ratio nor maintained dividends and tax pay out ratios However, all the industries, retention ratio out of total Cash flows, remained fairly consistent, during the period under study.

It is also noted that shipping industries, profits were too low, that it did not even provide sufficient depreciation on its assets and hence its total Cash flows for last two years were found negative. ■■■

(Contd. from page 25)

as Polyester Filament Yarn from Chips and have given full justification of its economic viability. As the capacity so far allowed for manufacture of Polyester Filament Yarn is not adequate, it is highly essential that the Government should take a suitable decision on the project proposals by allowing medium size Art Silk Units as well as the Co-operative Societies of such units to put up Mini Plants for Manufacture of POY and/or Polyester Filament Yarn for their own captive consumption. This will be another way of self reliance for this decentralised powerloom sector for procurement of their raw material.

So far as the estimate of textile demand is concerned, the population in 2000 A.D. is estimated to be 960 million and the per capita consumption of fabrics is therefore estimated at 20 mts. by them. If, therefore, the country has to achieve its target of clothing people, there is no option but to go in a big way for Man-made Fibres. During the last two decades the population has grown reflecting a strident increase. As such not only cotton production will have to be increased but with the present subnormal level of food grain consumption, the land for food grain will also have to be increased to meet the Country's target to provide adequate food grains to its populations. One may question whether the acreage under cotton has any scope to be increased ? Therefore, switching over to Man-made Fibre is one such option which our country will have to consider. With the requisite land for cotton cultivation being necessitated to be reserved for utilization for the purpose of fulfilling the feeding necessities of the growing population, the responsibility for clothing requirements for the masses has apparently shifted to the Art Silk Weaving Industry which is the only alternative after the Cotton Textiles. Hence, the development of this Industry certainly needs to be assigned greater importance.

It is also pertinent to point out that with the huge production of Art Silk Fabrics at this important centre it was quite imminent to see that the Industry at Surat kept pace with Scientific and Industrial progress of the world and for this purpose Research & Development Centre like the Man-Made Textiles Research Association has been set up at this Centre which at present has indulged in rendering useful services to the Art Silk Weaving Industry by carrying out different physical and chemical tests on different types of yarns and fabrics and is rendering technical service at the doorstep of the small and decentralised Art Silk Weaving Units. In the field of technical education this institution imparts practical training to the students and is conducting short term courses in Weaving and Wet Processing of Man-made Textiles for the benefit of young entrepreneurs. The South Gujarat university at Surat has also sanctioned a post graduate course in Textile Technology and course leading to a degree of B.Sc. Tech. Textiles has already been introduced. Besides now MANTRA have been conducting diploma courses in Weaving and Wet Processing fields in collaboration with the Department of Technical Education, Government of Gujarat. Recently a proposal has been put up to the Central Government by the Sardar Vallabhbhai Regional College of Engineering & Technology to conduct undergraduate course in Textile Processing Technology with an objective for reorientation of the existing facilities for technical education and to identify diversification required to meet the emerging needs of the specialised Manpower in Art Silk Processing.

Looking to the importance, as a vital Indsutry, in future the Government needs to pay extra attention which is due to this Industry for a long period and the need of the hour is its proper organization by properly looking into the raw material as well as marketing needs of this Industry. □□□

BOOK REVIEW

RAJ TO INDIAN RAJ by Purshotam D. Vashist. Published by R.N.C. Print & Publishing Co., D-20, South Extension, Part I, New Delhi 110049. First published: 1989. Page 239. Price Rs. 240.00

Critical issues in the realm of politics, economic policies, social issues, administration and institutions have been discussed in this thought-provoking book written with competency, clarity and great ease. Most of the analyses drawn and conclusions derived would aptly apply to all countries of the Third World. The author has succintly remarked that over a period of time, the democracies and governments tend to become closed-door societies and must readjust themselves and take a stock of the roles being played by them, if the goods are expected to be delivered to the people.

Quite rightly, the study puts the Indian society into three major segments viz., the politics, the bureaucracy and the public around which the whole fabric of interrelationships is woven for a meaningful impressionist judgement. The author, being in the Indian Administrative Service, has much to tell on all these aspects from his first-hand experience in Indian polity. The author argues that democracy lies with the decisions of the 'party in power' but it comes into serious conflict with the supremacy of the Parliament. Also, democracy is to do with people as a whole rather than with a particular organisation or pressure group. As such, sovereignty of the 'party in power' should not substitute democracy itself.

Stress has been laid on the role of private voluntary organisations in various economic problems of the country. They should be groomed and encouraged to share intergovernmental powers and problems instead of being looked down upon or treated with contempt or suspicion. "In the developing countries where already total duality and dichotomy in the distribution of fruits of growth, incomes and other benefits has taken place and the poor and the have-nots are getting isolated and deprived further and further, the PVO sector can play a very important role in the redistributive justice as the purveyor of assistance for the subtle basic human needs."

The author points out that two major problems have to be resolved in order to initiate the process of technological development effectively and efficiently. The first problem relates to the identification of the key factors affecting technological development and the specification of their relationship with the rate of technological growth. The second problem relates to the specific mechanism of the system through which the technological development effort is to be planned and subsequently executed in the economy by taking it to the beneficiaries.

In the context of large unemployment existing in the country the author has given priority to the informal sector which needs to be sustained, along with measures to boost self-employment. After dilating on the ill and woes of Indian entrepreneurs who have to face lots of hurdles at every step, the author points out improvement in labour efficiency through introduction of simple capital inputs would be vital. While he applauds the various on-going programmes for employment and training, he deplores the fact that the present District Industries Centres (DICs) are not able to cater to the training/technology market and other needs of people in the rural areas. He, therefore, recommends that a mini-DIC at the block level, with suitable staff, may be set up as also an exclusive wing to cater to the needs of rural industries. Besides, marketing cooperatives at the block level may be affiliated with the district level cooperatives and in turn with state and national level organisations.

The book makes bold attempts in indentifying our various political, social and economic problems with a view to find their solutions that could be sustainable and more pragmatic. The author has usefully given adequate bibliography at the end of each of the 14 chapters of the book.

Navin Chandra Joshi

Regional Inequalities in India: An Inter-State and Intra-State Analysis, L.S. Bhat et. al (Edst), Society for the Study of Regional Disparities, New Delhi-14, PP. XVIII + 272. Price Rs. 80$ (20).

The problem of regional inequalities in development within a nation is increasingly engaging the attention of social scientists all over the world. This issue assumes special significance in India where the overwhelming majority of population lives below the poverty line This is more so because of the heterogenity in terms of language and culture among the people of different region of India. The present publication is an outcome of two day deleberations that took place in an all India conference on 'Centre-State Relations and Regional Disparities in India convened by the Society at Indian Institute of Public Administration, New Delhi. The 13 papers included in this volume have apart from discussing some

conceptual issues regarding regional disparities highlighted some significant problems of federal structure and finance and inter-regional, inter-state and intra-state dimension of agriculture, industry and education.

In part one of the volume are three papers dealing with general and conceptual issues like identification of backward regions, changes in inter-state disparities in development in India and an evaluation of regional development planning in India. Hemlata Rao gave a useful illustration of the method of construction of composite index of development at the taluk level.

Disparities in inter State per capita income have increased during 1962-63 through 1975-76 according to Majumdar. Per capita income and increases in it of Punjab and Haryana was much higher than other States and the national average. Their exclusion, obviously, reduces disparities considerably. Compared to this, disparities in per capita expenditure have been of a much lower order and did not show any definite trend. She support 'Williamson's' hypothesis that in early stages of development, disparities in per capita income widened. But she did say that balanced regional development of India had brought any positive effect in arresting the widening disparities. Dr. Mahajan, however, points that no attempt has been made to plan for regional development in the real sense of the term although regional dimensions have been mistakenly equated with the State level of planning. The absence of a long term perspective of regional development and preferences for planning at the state level flow from the reliance of the planners on big aggregates and the neglect of social and economic microcosms from the very beginning.

Part two contains three papers examining in detail, India's federal structure and finances in the light of regional inequalities. Inter-State disparities can be corrected only by reversing the present directions of the financial flows from the central government. This would imply that the funds from the developed States have to be increasingly deployed in the backward States. This is likely to become a major policitcal issue among the developed States which even now plead for the acceptance of archaeic principle of contribution.

In part three are three papers dealing with the particular sectors, namely, food production, agriculture and industry. Prof. Kabra warned that government operations in food may be misleading if their links with long term policies are not systematically analysed and looking at regional disparities by them selves may tell little about inter class disparities. Hence policies fairly effective with respect to reduction in interstate disparities may produce highly uncertain results with respect to inter class disparities. Inter-regional variations in agricultural development has been attributed more to technological dimensions than institutional dimensions by Prof. Gupta.

But, on the contrary, in fact, Punjab had the multifaceted spade work, that is, built requisite infrastructure, in the earlier years which paved the way for green revolution in late sixties. It was this preparatorywork alone which made possible for a quick and compehensive adoption of the new irrigation-seed-fertilizer technology.

Prof. Seth demonstrated that in India the process of industrialisation is accompained by regional convergence which is reflected in the movement of successive localisation curves towards the line of equi-distribution. He attributed such a pattern to the factors operating both from the demand as well as the supply side. Convergence which is occuring in India might be related to the type of political organisation of the Indian economy, that is, federalism and the spatial behaviour of the state viz, the location of public sector plants.

The four papers presented in the last part focuses attention on educational disparities among the different regions of India. Two papers relate to Karnataka State while one to Andura Pradesh. These studies in general highlighted the educational distance between the districts in the state studied. No attempt is made to explain these educational disparities between various districts, but suggests that efforts should be initiated to reduce these inequalities A strong political will at the state level may as well solve the problem very substantially.

Gursharan Singh Kainth

Indigenous Palm oil extraction Plant

The central Plantation Crops Research Institute has successfully cultivated oil palm in Kerala and has evolved a technique appropriate for Indian holdings which are much smaller in size than the plantations elsewhere in the world.

CPCRI and Regional Research Laboratory (RRL) Trivandrum together have fabricated a palm oil extraction plant suitable for Indian condition. This plant, which is made completely of indigenous components has been designed and fabricated by RRL, Trivandrum. It makes use of agricultural wastes like leaves of palms from oil palm plantation and factory refuse for fuel. It costs around Rs. 16.5 lakhs and can process 750 Kg palm oil in a shift of 8 hours. It has sufficient capacity for an oil palm plantation of 200 hectares. ■■■

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— Editor

Survey of flood-prone areas

An area of 47, 600 sq. Kms. has been surveyed for the preparation of flood risk maps to demarcate the zones prone to floods from the rivers. An additional area of 1000 sq. Kms. will be surveyed during the current year by the Survey of India.

This programme has been initiated by the Centre to give a fillip to flood plain zoning measures in the country. During the Seventh Plan, greater emphasis has been laid on non-structural measures such as flood losses. Flood plain zoning envisages dilineation of those areas near the river banks which are prone to flood. Economic activity such as industry and agriculture will be restricted in these areas. A Model Bill has been circulated to the State Governments for enacting the necessary legislation.

Apart from these non-structural measures, other flood protection works have also been taken up. During the Seventh Plan Period, 79,000 hectares of additional area will be provided with a reasonable degree of protection from floods. This will take the total area provided with flood protection to 14 million hectares. According to the Rashtriya Barh Ayog, the flood prone area in the country is 40 million hectares, of which, the protectable area is 80% i.e., 32 million hectares.

The Central Government has taken the initative for expediting certain important flood management measures in the country. These include detailed surveys for flood plain zoning, aerial photography, flood forecasting and warning centres. A sum of Rs. 15 crores was allocated for this purpose during the Seventh Five Year Plan. Central assistance has also been given for specific works such as the Rengali Dam Project and anti-sea erosion works in Kerala. During this Plan, Rs 70 crores has been allocated for the flood management works in the Brahmputra Valley.

Strengthening of seed research

An expert group on seeds has recommended decentralisation of production of breeder seeds, preparation of seeds map of the country and compulsory certification of hybrid seeds. The expert group headed by Shri K. Ramamurthy in its interim report submitted to the govt, has recommended strengthening of seed research, seed delivery system, seed export and import, pricing, quality control, and registration and certificatin of varieties. Apart from compulsory certification of hybrid seeds, the Group has recommended that hybrid seeds for rainfed areas should be popularised to enable small and marginal farmers to cross the poverty line. Farmers' own seed production must be organised for self-pollinated crops such as paddy, wheat, etc. without price control. The report recommends a single window system for all inputs. The group suggests that a new co-operative sector in the seed business must be developed by the National Cooperative Development Corporation.

Other, recommendation of the Expert Group include setting up of a national seeds regulatory bureau, formulation of seed crop insurance scheme and the strengthening of public research on seeds, oilseeds and forage crops. Other recommendations relate to the preparation of a modern nursery legislation for adoption of seeds.

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Oilpalm

Studies have shown that oilpalm is a viable crop for cultivation on a commercial scale in India. With the highest productivity among all edible oil yielding crops, oilpalm can supplement the traditional vegetable oil production in a big way.

For demonstrating the feasibility of oilpalm cultivation under irrigated conditions, the Central Government in collaboration with the State Governments of Maharashtra, Andhra Pradesh and Karnataka, has launched oilpalm demonstration projects in these three states in an area of about 1000 ha. each. Seventy per cent of this area will be planted with imported seeds while the balance 30% will be planted with indigenously produced planting material. Apart from this, it is proposed to implement a scheme for oilpalm development with an outlay of Rs. 1.70 crores for 1989-90.

ICAP, through its Central Plantation Crop Research Institute Centre, Palode, is capable of producing about 4 lakh of tenera hybrid seeds which will be sufficient for taking up plantation of oilpalm in 2000 ha. annually.

Fish seed farms

Twenty fish seed farms/hatcheries have been set up in various states to produce fish seed of Indian major carps viz. Catla, Rohu and Mrigal and exotic carps viz. Grass Carp, Silver Carp and Common Carp.

Eight more such farms/hatcheries are in various stages of construction.

These farms/hatcheries are being established under the National Programme on Fish Seed Development. Seventy per cent of the cost of construction, limited to Rs. 24.36 lakhs is given as loan to the State Governments and the balance cost of the land is borne by the State Government.

The target of the fish seed production during the year 1989-90 is 12,000 million fry.

Wildlife sanctuary in Delhi

A Wildlife sanctuary will be developed in Delhi with an estimated expenditure of Rs. 2.93 crores. This amount does not include the cost of land.

The sanctuary will be developed in the Gaonsabha land in the villages of Asola, Sahurpur and Maidangarhi. An area of 211.17 hectares (2526 bighas) in Maidangarhi and 243.78 hectares (2916 bighas) in Sahurpur is proposed to be acquired for this purpose.

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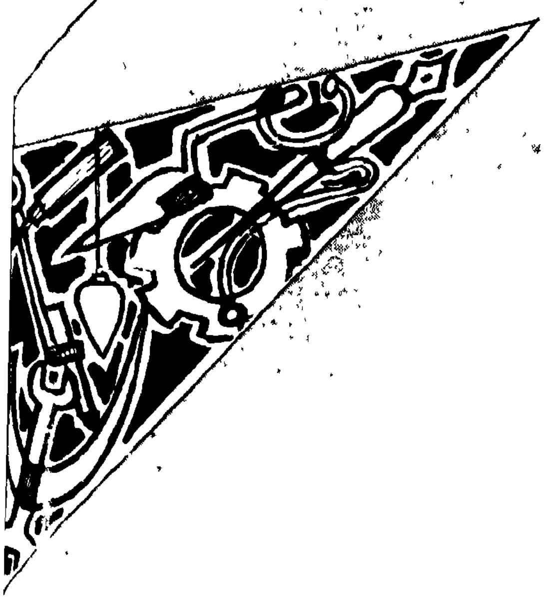
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LOCAL SELF GOVERNMENT AND EDUCATION



Pavement Dwellers' scheme

A provision of Rs. 3.5 crores has been made for implementation of the Central scheme to provide shelter to pavement dwellers in more major cities during 1989-90.

During 1988-89, nearly Rs. 3 crores had been released as Central subsidy to the cities of Calcutta, Madras and Hyderabad for provision of shelter to 5043 pavement dwelling households, construction of eight night shelters covering 1360 families and also 'pay and use' toilets.

Under this scheme formulated by the Ministry of Urban Development, the Central Government provides grants-in-aid at the rate of Rs. 4000 per household for identified pavement dwellers and construction of individual dwelling units. The scheme aims at assisting in relocation of pavement families to alternate sites with their participation with the help of subsidy from the Central Government and HUDCO loans. Night shelters and basic services in suitable locations are also provided.

The Ministry hopes to bring under this scheme all metropolitan cities where pavement dwellers have been identified. □ □ □

Urban Basic Services Scheme

A provision of Rs. one crore has been made during 1989-90 for the implementation of the Centrally sponsored scheme of Urban Basic Services (UBS) which was launched in August, 1986 to enhance the rate and quality of survival and development of urban low income families, particularly the children and women. The Central Government has already released a sum of Rs. 196.30 lakhs to the State Governments under the scheme.

The scheme introduced with the assistance of UNICEF, will cover 200 towns in 36 selected districts in the country with the total outlay of Rs. 27.60 crores during the 7th Plan period. The expenditure is to be shared by the Central Government, the State Governments and UNICEF in the ratio of 20:40:40.

The aim of the scheme is to create awareness in poor urban communities to improve their environment, specially to provide better life to children and women. It also provides for infrastructural services and essential civic amenities like water supply, low cost sanitation, environmental improvement, education and programmes to motivate the collective community organisation to promote cooperative group action.

The scheme has become quite popular in Andhra Pradesh, Gujarat, Madhya Pradesh, West Bengal, Delhi and Pondicherry where the achievement of targets has been nearly cent per cent. District Coordinators have been appointed by the State Governments to implement the scheme. □ □ □

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India's crowning glory

Raj Gill

The author is proud of India's remarkable success in achieving self-sufficiency in food grains production in such a short span of time and he claims that the agricultural sector is still responsible for 40% of the total national income. With all this, the author laments that only 20% of the scientific and technological service of the agricultural research institute is available to the farmers. Had there be an effective relationship between the scientist and the agriculturist, India would have occupied a commanding position in the world foodgrains market.

IF WE WERE TO PREPARE A ROLL OF honour for our achievements in the post-independent India, agricultue doubtlessly would have to be placed at number one position. It is a truth which is hard to swallow. It sounds all the more incredible when we think of our mammoth dams, nuclear power plants, oil and gas projects and remarkable advances made in science and technology. The latter have already got us a place amidst the front ranks of the developed nations and given us the lead over the developing nations. These overwhelm us so that the success in agriculture seems puny.

Unparallel success

Nevertheless, the brute fact remains. But for the success in agriculture India would have not been where it is today. Even the achievements in other fields are directly dependent upon success in agriculture. If India today commands the respect of the international banks and financial institutions and the admiration of the Western countries, it is because of the agricultural success. There is no parallel instance in the annals of the history of mankind in which a nation or a community had achieved self-sufficiency in food in so short a period. Not only that but also having put the agriculture on a forward march which if maintained and sustained could put India in the commanding position in the world foodgrains market.

We cannot forget the days immediately after independence when we were virtually at the verge of starvation; when we set out with a begging bowl to get food to feed millions and millions of hungry mouths; when we suffered the humiliation of submitting to whatever political or economic terms were dictated to us for the gift of food most of which we were paying for. The Indian leaders learnt a lesson. Special attention was given to agriculture. In about a decade we were progressing towards self-sufficiency in food. And in another decade we did become selfsufficient in food. It was a remarkable achievement. And ever since we are marching on.

No doubt, we are still importing food frequently. But now there is a difference between the current import and the import of fifties. We do not beg. We buy. We buy in the spot market. And we buy only enough to keep our reserves in the national food kitty to a level that we can cope with a total crop failure in any year. We cannot forget at the same time that we are exporting food, and even to some of the most developed countries. The export outweighs the import. The necessity for import arises from the misfortune of the climatic vagaries of this subcontinent. We never have a year when one or the other part of our country is not being badgered by drought or flood. In such dire conditions the Government uses its reserves as wages to save the people in the calamity affected areas from the sharks of the foodgrain maket in the Private sector. The lowering of the level of reserves between the foodgrains crops necessitates small imports. The government does not want to take a risk or to face conditions that it had to in the first decade of independence.

But the saga of agricultural success does not end here. We have not been able to achieve the output in agriculture pro-portionate to the potential of our land. We are a way below even the average. In fact, our agriculture output should be, even at a mean level, such that not only we continue to be in reserve but also should be able to feed at least half the world. In other words, our agriculture should be earning more foreign exchange and goodwill than our textile and engineering goods. But it is not so. We can blame it to many extraneous factors. But justifiably we should blame ourselves. It is us who have failed to

exploit the potential; us, the planners, the agronomists and the scientists. We cannot blame the farmers. Because the Indian famrer, perhaps, is the best in the world. He has worked wonder with his primitive skills. He is dedicated and inquisitive. He goes after the scientist. The scientist does not come to him, as it should be.

Our potential resources

Let us have a look at our agriculture and find out why should we continue to feel dismal about it. But before we count our failings and reckon our drawbacks, let us, first, take a look at our potential resources. India, perhaps, is the only fortunate country which has more crop seasons, vastly varied climate, and far larger portion of agricultural land ratio to the total land mass of any country. These factors outbalance our misfortunes in the shape of almost annual droughts and floods that wreck misery in one or the other part of the country.

India has a total land mass of about 329 million hectares, More than half of it is arable. This is far large a proportion than any other country can boast of. The International average of arable land is 11 per cent. We have about 51 per cent. This is something to be proud of. Then there is enough water to irrigate, at least, 113 million hectares. We have the advantage of monsoon rains. In fact, about 70 per cent of our arable land is rainfed. About 45 per cent of the cropped area is unirrigated. And Yet these factors do not spell doom or helplessness for us. Because our dry and neglected lands nevertheless, contribute 42 per cent of the total output of foodgrains, which is remarkable. If our scientists were more particular to improve the dryland farming techniques and developing varieties that could flourish in dry climate the food production would have been stupendous by now.

We are also lucky in that we have more crop seasons than any other country in the world. We have three main crop seasons. Kharif-June to October 1-, Rabi-October to March, and Zaid-April to June. The Zaid crop season is not mostly known to people. The word Zaid means 'additional'. It is the summer crop of coarse grains between the Rabi harvest and Kharif sowing. Again these crop seasons vary by a few months all over India, thus giving a tilt to the security of agricultural output. If one area is hit by some natural calamity, some other area is growing the same crop. This also helps the scientists to cut short the research period of any crop. For example he can go on doing research on potato, wheat, rice, etc all the year round because the climatic conditions from the hill areas down to irrigated plains, raindfed areas and dry areas like that of Rajasthan make it possible for each of these crops to be growing in one or the other part of the country.

Again regarding irrigation we have water enough to irrigate as much land as we would want to. But we waste water both by letting it flow into the seas and mismanaging. The water harvesting is one thing that is still sort of backward in our country, though the importance of water harvesting was even emphasised by Kautiliya. And yet we have not come to any standard practice of water management. The farmer, mostly illiterate, irrigates his fields by the hours and not by the flow and volume of the water and requirement of the crop. The result is that more often than not he over-irrigates and largely under irrigates his fields. Consequently, he never gets the required output from a high-yield variety; or at least not uniformly from all his field under that particular variety.

Land degradation

The greatest tragedy of our agriculture is letting the lands get degraded. The cultural practices, ignorance of sustaining the topsoil nutrients at a productive level, and taking measures to stop topsoil loss and stop erosion, and finally laying the land waste by shifting cultivation and cutting forests, thus reducing the green cover from the required percentage, that is, 33 per cent of the total land mass, are responsible for this. Out of our total land mass of about 329 million hectares about 175 million hectares-more than half of India is degraded. In agriculture, out of 143 million hectares, about 40 to 60 million hectares are considered degraded. In the forestry sector, out of 75 million hectares 40 million hectares are degraded. Out of the degraded forest land, about 30 million hectares are without tree cover and about 10 million hectares have scanty shrub cover. It is a colossal waste of land which cannot be forgiven in any circumstances. By now about 50 million hectares have become totally unproductive. Hence, we would need 10 million hectares of additional land to be self-sufficient in food at the turn of the century.

It is the tragedy of this country that about one million hectares of land are vanishing every year due to shifting cultivation. About 8,000 hectares of land are encroached every year by ravines and gullies due to flow of water It is estimated by various authorities that between 5.37 and 8.4 million tonnes of nutrients from the topsoil are washed away every year. Even in the forestry sector we have been losing about 1.5 million hectares of forests each year. The loss now has been reduced to 65,000 hectares. But it is still too big. And we cannot forget the frightening truth that our forest cover has come down from the required 33.3 percent of the total land mass to 19.5 per cent.

Man-made factors

All these factors are mostly man-made. Wrong planning, wrong cultural practices, and general disregard to land and agriculture as such, are responsible for this growing calamity. If it is not stopped in time; if the forest cover is not restored to the required percentage, we are going to meet the same doom as the lands of the Great Saharah, Gobi and the Thar desert of Rajasthan, all of these lands were once verdant jungles and lush crops with sweet water streams and rivers. But the man's greed and indifference to the Nature's laws brought about the

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Rice revolution in Punjab

G.S. Sidhu

The author talks about 'rice revolution' in Punjab which is traditionally not a rice growing state. The author gives credit to the Punjab farmers who are 'hard-working educated and always willing to adopt new technology for increasing rice production. The author also speaks of ecological impact the increased rice production has created. Diseases are also on the rise. Hence, the author feels, there is a great need for research on the development of rice varieties which are resistant to such diseases.

PUNJAB IS TRADITIONALLY NOT A rice growing state of India Before 1965 rice cultivation in Punjab was restricted to low-lying and water-logged soils where production of other *Kharif* crops was considered unsuccessful. Productivity (average yield) of the crop was very low After 1965 Punjab has witnessed rice revolution and rice has attained the status of prime *Kharif* crop in the state. Of the net cultivated area of the state rice now occupies about 43 percent area. During the years, area, production and productivity of the crop has remarkably increased in the state. In 1965-66 area under rice in Punjab was 292000 hectares and total production of rice in Punjab in 1965-66 was only 1000 kg per hectare. In 1986-87, which was a normal year of rice production, area under rice in Punjab was 1809000 hectares which produced 6022000 metric tonnes of rice with a productivity of 3329 kg rice per hectare The increase in area over the years is about 6 fold, that of production is about 21 fold and that of productivity is about 3 fold. In 1987-88 the state was affected by drought, while unprecedented floods hit the state in 1988-89 due to which area, production and productivity of rice slightly decreased during these years as compared with 1986-87

As compared with other states, rice productivity is the highest in Punjab. Productivity of the highest yielding district of Ludhiana in Punjab also remained at the top as compared with any best rice producing district of any other state in India Productivity of rice in Punjab in 1960-61 was almost at par with India but it has increased remarkably after 1965-66. In 1987-88 per hectare productivity in Punjab was 3164 kg as compared with 1473 kg for India. In 1987-88 Punjab produced 9 05 percent of rice of the country from 4 48 percent of rice area in the state while central Procurement Pool of the country was 48 8 percent

Rice revolution in Punjab

Numerous factors including research efforts of Scientists, Government policies and farmer's efforts have jointly played a pivotal role in ushering rice revolution in Punjab The important factors are:

Development of semidwarf varieties

Development and cultivation of semidwarf high yielding, photo-period insensitive and nitrogen responsive varieties of rice has played a pivotal role in bringing rice revolution in the state. The traditional varieties of rice were more than 150 cm tall as compared with semidwarf varieties which are 90-100 cm tall. Due to their weak stems and tallness they used to lodge very badly under high fertility conditions which resulted in poor yields as compared with semidwarf high yielding varieties which have stiff stems, short height, lodging resistance and responsiveness to high fertility conditions. Following their release semidwarf rice varieties were rapidly adopted by the farmers Now these varieties occupy about 95 percent rice area in the state and the remaining five percent rice area in Punjab is under *Basmati* varieties which are known for their excellent grain qualities.

Twelve rice varieties were relased from time to time in the Punjab. The six varieties, which are now recommended for cultivation, and their salient characters are as follows. Jaya, IR8, PR 106 and PR 108 are late maturing varieties and take 140-145 days from seeding to maturity. PR 103 and PR 109 are relatively early maturing varieties. PR 103 takes 120-125 days from seeding to maturity and is best suited to late trans-planting conditions in July. If transplanted in mid-June this variety will mature in mid-September and will facilitate to take a crop of potato or peas before sowing wheat after rice. PR 109 matures in

about 130-135 days from seeding. Its inherent yield potential is lower than other varieties. But it has advantage of being resistant to bacterial blight disease and white backed planthopper insect which are quite serious in the state. Thus, under bacterial blight incidence and whitebacked planthopper infestation this variety outyields all other varieties. PR 108 is tolerant to whitebacked planthopper and sheath blight. Jaya and IR 8 have long bold grains while PR 103, PR 106, PR 108 and PR 109 have long slender grains. Among these, PR 106 has excellent grain shape and size with very good cooking qualities. This variety has also excellent plant type with erect leaves and covers maximum rice area in the Punjab as compared with varieties.

Improved production technology

Rice production techology suited to the semidwarf varieties of rice has been developed. Appropriate time of transplanting, fertilizer application, plant population per unit area, age of seedlings at the time of transplanting etc. have been worked out for different varieties. Best time of transplanting in Punjab is from June 10 to June 30 Besides high yields crop transplanted in this period will require less water as compared with the crop transplanted in May Rice crop transplanted in this period will also mature at the end of September or early October allowing timely sowing of wheat crop To overcome adverse effects of late transplantings on yield of rice, 60 day old seedlings were found to give better yield than 30 day old seedlings Under normal fertility, an application of 120 kg/hectare, in three equal splits as basal, and three and six weeks after transplanting gives high yields. Under timely transplantings 33 plants per square meter were found to give high yield. Under late transplantings 44 plants per square meter are recommended to obtain good yield. By adopting recommended practices many farmers in Punjab are harvesting 6 to 8 tonnes of paddy per hectare

Chemical weed control

Due to competition for nutrients weeds reduce crop yields substantially. Rice crop highly infested with weeds may completely fail. Chemical weed control has greatly helped to overcome weed problem in rice crop in Punjab Several herbicides have been tested and found effective to control weeds Formulations of Butachlor 50 EC, Butachlor 50 EW and Thiobencarb 50 EC are being commonly used by the farmers. Coverage of rice area with weddicides increased from 12 percent in 1975 to 50 percent in 1985 in Punjab.

Plant protection measures

Rice insects like stem borer, whitebacked planthopper, leaf folders, hispa, ear cutting cater pillars etc. damage rice crop in varying degrees. Effective chemical control for these insects have been developed which are followed by the famers to mitigate crop losses by the insect pests.

Increased use of farm machinery

With the adoption of high yielding rice varieties, timely farm operations have become important factor in Punjab especially when the objective is intensification of agriculture through multiple cropping. Increased mechanization for preparation of fields at the time of transplanting and combine-harvesting of the crop at maturity has helped transplanting and harvesting and threshing of the crop in time. This has avoided the risk of low yield due to late transplantings and yield losses due to delayed harvesting and threshing.

Government policies

Wise government policies have gone a long way to realize high yields of in-built potential of semi-dwarf varieties of rice. Timely availability of inputs, power supply, enhanced irrigation water, farm implements; formulation of economic policies like farm credit, procurement price, input subsidies; development policies like link roads, more markets and purchase centres; and handling of surplus rice reserves through storage and export, prompted rice revolution in Punjab.

Farmer's contribution

No other factor would help increase rice production without farmer's will to adopt new varieties and technologies. Punjab farmers are hard working, educated and always willing to adopt new technology for increasing rice production The semidwarf varieties and their production technologies were rapidly adopted by the Punjab farmers. Punjab farmers have also made good use of government credit policies to increase food production But for the efforts of the farmers, rice revolution in Punjab would not have become a reality.

Ecological impact

Increased rice production in Punjab has created certain new problems which were earlier not common in the state Incidence of diseases like sheath blight, bacterial blight, and insects like whitebacked planthopper, stem borer, leaffolders, hispa etc. has increased Micronutrients deficiency, particularly of zinc and iron, in the soil has appeared. New weed flora like wrinkle grass (Tschaemum rogosum) have also appeared. Water table in rice growing areas has gone down Increase in area under rice has caused reduction in area under other Kharif crops like maize, groundnut, cotton and bajra in Punjab

Research priorities

Due to increased incidence of diseases and insects in rice following rice revolution, research on the development of rice varieties resistant to bacterial blight and sheath blight diseases, and whitebacked planthopper will be strengthened to stabilize yield potential of the semidwarf varieties. Research on

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Agro-industrialisation- Case for rice shellers

Gursharan Singh Kainth

Punjab, an agriculturally advanced state of India should go in for agro-industries to correct the imbalance in the economy so as to ensure higher rate of growth to reorganise agriculture on scientific lines by reducing pressure on land and to fight out the menace of unemployment says the author.

PUNJAB, AN AGRICULTURALLY ADVANCED state of India acts as granary for the rest of the country. Notwithstanding its high ranking, it is increasingly felt that Punjab would not be able to retain its position for long without industrialisation. In fact, agricultural economy of Punjab has reached a stage where a continued increase in agricultural growth is dependent upon industrial growth. Lack of mineral resources, deficiency of finance, absence of an enterpreneurial class ready to take initiative and risk are some of the reasons which obstruct the establishment of large scale industries. It is an admitted fact that nature of industries must be in consonance with the characteristics or requirements of that economy. But because of poor linkage between agriculture and industry, agricultural input supplying and output using industries have not come up as fast as required. It is, therefore, necessary to establish agro-industries to correct the imbalance in the economy so as to ensure higher rate of growth to reorganise agriculture on scientific lines by reducing pressure on land and to fight out the menance of unemployment which is eating vitals of the society.

A variety of agro-industries can be set up in Punjab, such as rice, sugarcane, cotton, wheat etc. Rice processing plants however, is a typical one being less capital-intensive. It also fulfills all the three basic requirements about the establishment of agro-industries. These, are (i) industry must foster the spirit of interdependence between agriculture and industry, (ii) it must use raw materials provided by agriculture and output of industry must have a market among rural population, and (iii) surplus man power must be absorbed by the industry.

Though the varieties of paddy may differ but system or process of converting paddy into rice is the same. As expected, the recovery per centage has a positive correlation with the unit size. On an average 67 per cent is the recovery rate of rice. Depending upon the quality of paddy, its moisture content and polishing limits required, the recovery rate of rice varied significantly. The available evidence showed that as the quality of rice improved its recovery rate, declined being 67.74, 64.10 and 61.19 per cent for coarse, medium and fine variety of rice. Furthermore, of the total paddy dehusked, generally coarse variety constituted nearly 65 per cent. medium (Parmel) 22 per cent and the balance 13 per cent was fine variety (Basmati). Indian Basmati variety had a great export potential in the world markets of U.S.A., Canada, Australia and gulf states. Because of less cultivation, the country could not earn much. On what ever was exported, the government charged 'export levy' which served as a damper. Moreover, due to low yield level, farmers undertake less cultivation of this variety. The cultivation of basmati which could turn out to be a profitable foreign exchange money spinner needs support and encouragement. Breeders have also to shoulder this responsibility by developing high yield potential varieties of Basmati The creation of National Council of Export Promotion for Basmati could go a long way in stepping up Basmati cultivation.

The by-products which we get from paddy milling are rice bran and rice straw. The amount of rice bran is approximately 5 per cent of paddy processed. Bran is increasingly used for feeding poultry, cattle and pigs. In human diet too it is affective in reducing dental caries. Rice bran is also used for extracting oil through solvent extraction plants. This oil serves as best substitute for imported edible oils. So far, rice bran oil is not used independently as a cooking medium. But used as a base oil, though on much smaller scale, like cotton seed, mustard, groundnut, rapeseed etc in the production of vanaspati. The central government offers special excise incentives to vegetable oil manufacturers using rice bran oil. Thus,

lot of foreign exchange can be saved by curtailing the oil bill (imports) if Government realises the importance of rice bran oil and give more incentive for maximum domestic production. Refined rice bran oil has been, recently, developed by the Food Technology of India (FTI) -a joint venture of Punjab Markfed and Brady International of USA. This oil, known to have low cholestrol value, will be in great demand as a cooking medium. It is well known that high cholestrol value oils are a major factor for causing blood pressure and heart diseases. FTI is producing only for Markfed on custom basis with which it is under agreement. In last rice season, FTI stabilised 10,000 tonnes of rice bran on custom basis much below the installed capacity due to extruder machine shortage. This year it proposes to stabilise at least 50,000 tonnes of rice bran, a substantial part of which will be sold to customers.

Defatted rice bran, that is, bran after extraction of oil, is also useful for eating purposes. Such bran can be turned into rice bran flakes which can be served as a breakfast food, Besides, it can also be added to flour for making chapatis or for producing salted nuggests.

Next byproduct, namely, rice straw (Phak) is a valueless food not due to low nutritive value but of high silicon (18 per cent) content which is harmful to digestive and respriatory organ. Morethan 5 million tonnes of rice straw is simply burnt in the field leaving silicon rich ash for soil degradation and heavy smoke for environmental pollution. However, using proven technology currently used in Italy and U.S.A. rice straw can be used to run thermal electric plant. Recent technological breakthrough has led to the creation of super-efficient boilers that make it possible to recover and utilize every calory when rice straw (or any other type of biomass) is burnt. Rice straw can also be used for producing urea fertiliser. The gasification technology envisages generation of producer gas (a combination of carbon monoxide and hydrogen) which is used (methol or urea) in the production of petro-chemicals. It is a more value-added product and closes the ecological cycle, taking agrcultural waste and turning it into ammonia and urea which in turn-re-enters the cycle as fertilizer. Moreover, energy from agriculture (rice-straw) would go into the production of energy for agriculture. Cost of power generation from such plants compares favourably with unit cost of coal based power because rice husk is not to be imported from Bihar. Another advantage of rice husk plant is that husk is completely burnt and there will be no ash laden smoke and farmers will gain 30 per cent more than they are getting from sale of paddy alone. □□□

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doom. We cannot be an exception to this. Therefore, we must girdle up and set to restoring the balance between green cover and cultivated land as well as preservation of land, stopping erosion and degradation.

We cannot afford to miss a mention of the poor scientific and technological service that our agricultural research institutions provide to the farmers. It is shocking that about 80 per cent of the research and developed technology goes to waste in these institutions. Only about 20 per cent reach the farmers. The handicap is that the white-collar scientists deem it below their dignity to go to the farmer's fields and work with him. There is some semblance of laboratory to field programme. But it is still a far cry from being an effective relationship between the two communities, which explains the low output and still primitive cultural practices.

Towards food self-sufficiency

It is unbelievable but a fact that 42 per cent contribution of foodgrains to our national food kitty is from dry and neglected lands. A little more attention to these lands and improvement in the varieties grown in dry conditions can alone lead to food self-sufficiency. But the scientist is more interested in wheat and rice research which is not very labour-oriented and can be conducted ever in the institutions situated in cities. He is not concerned with the coarse grain research like kangni, ragi, bajra an so on because it involves field trials out under the hot sun and dust haze in the drylands.

We must not forget that two-thirds of our population is engaged in agriculture; that inspite of the yet to be modern agriculture, this sector still is responsible for 40 per cent of the total national income. This is inspite of the fact that the people engaged in agriculture are still under-employed and the potential output of our land is still poor. Nevertheless, we are performing though 70 per cent of our net cultivated area is dependent upon the unpredictable monsoon. Let us not downgrade ourselves to the status of commoner. □□□

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commercial exploitation of heterosis in rice by developing hybrid varieties using cytoplasmic male sterility will also be strengthened to break the yield plateau of pure line varities. *Basmati* rice has great demand in the international market and is a good source of foreign exchange. However, no high yielding Basmati rice varieties has been develped. In future, emphasis will be made to develop semidwarf high yielding *Basmati* varieties of rice.

Studies on integrated disease and insect management will be undertaken to minimise crop losses by diseases and insects and also to avoid excessive use of insecticides for the control of insects. Since ground water table is going down in rice areas due to excessive pumping out of water, research on water management in rice will be strengthened. Water losses due to percolation and seepage will be minimized to use available water more efficiently. Appropriate rice based cropping systems will be worked out to maintain and improve soil fertility and texture. □□□

Free Vs regulated Indian Agriculture

P.D. Vashist

In India long supply and price stability have been achieved in respect of wheat and paddy by the State Government agencies and Food Corporation of India. But in the case of perishables like fruits, vegetables and meat, the prices are highly fluctuating and this causes hardship among consumers. In order to assure their long supply, a renewed approach for their procurement, assured market of their surpluses including price support has to be under-taken says the author. This, according to author, will help the public as well as private sectors to procure and process the perishables at remunerative prices.

AGRICULTURE PUNDITS AND PLANNERS to-day are agreeable on the point that agriculture is energy intensive. There is also a belief that major share of this energy comes from cheap labour which is abundantly and readily available in the developing countries. In addition to energy and labour, the rôle played by capital and free market forces does also go a long way in the augmentation of agricultural produce.

Owing to fast rate of population growth in the third nations, it is felt that their food shortages can be met by better and efficient use of labour and energy. In fact, this has been a fallacy of the agricultural scene in India and other developing countries, whose economies have been beleagured by the problems of population explosion, food shortages, poverty and ignorance. These countries cannot alone bank upon their disguised treasure of surplus labour in increasing their agricultural production. Since, it has not been possible to defuse the population bomb, the underdeveloped countries will have to very seriously take recourse to enhancing their food production. Today, India can claim itself to be self-sufficient in cereals i.e. wheat and rice. Even if massive efforts are launched to curb the population, the results will not be substantial and immediate. By the turn of the century, Indian population will near one billion mark and unless the increase in food production keeps pace with the population growth, the nation may head towards starvation in rations. This calls not only for an efficient and economical use of energy, but also search for new energy resources This profit margin is much more in case of fruits, vegetables and meat products. Prices affect the production behaviour differently and may lead to mass sowing of certain crops, as has been the case of wheat and paddy in India. Since the producers get more and sure incomes from them, they produce them more. Rise in prices will also force the consumers to buy less, or may even force them to look for alternative products If for a particular commodity the consumers cease to exist, there will be glut In this way the producers' products will not sell They may be forced to indulge in distress sale or even be forced to sell away their producce at a throw away price. In case of utter frustration, the producers may go to the extent of destroying their own crops themselves. This is exactly what has happened many times in case of the potato crop in Northern India. Prices always have a conflicting influence. They reflect conflicts between the producers, buyers and market place. In case the price of a particular commodity rises, the producers would get more money. On the other hand, rise in prices would also dissuade the consumers from buying that particular crop This will result into fall in demand If there is going to be fall in demand, the producer's goods will not sell. Thus the producers will get less or no money. We can see that merely rise in prices does not necessarily lead to the benefit of the agricultural producer. The problem of agricultural market is such that a slight degree of under or over supply can have a dramatic effect on the prices which affect the welfare of both the producers and consumers.

Prices are also influenced by certain long term influences e.g. changes in incomes, population and technical development It is wrong to presume that food is meant for meeting nutritional requirements only. Enjoyment of food also reflects prejudice, folklores, associations, customs, tastes and the influence of advertising. As more food is taken, the satisfaction from each extra amount declines. This leads to the axiom that if the food prices fall, this does not necessarily lead to proportionate rise in consumption.

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Agriculture in J&K

G.M. Bhat, M.S. Mattoo & B.A. Bulg.

The efforts of the State Government in the post-independence period to increase the efficiency and effectiveness of agriculture have not made any significant dent in creating self propelling force in the agriculture sector. To maximise the yield from the land, a comprehensive management strategy is a must, say the authors.

AGRICULTURE IS NOT ONLY A supplier of goods for domestic and export needs but is also a supplier of production factors such as capital and labour. A rapidly expanding industrial sector necessarily draws some of its labour force from the rural areas. Moreover, in one form or another, agriculture is called upon to save or finance a significant part of the investment for an expansion of industrial plant, transport and other sectors as well. In general the contribution of agriculture to economic growth can be seen to be constituted of three elements:

(i) The product contribution (ii) The market contribution and (iii) The factor contribution

It can be argued that the increase in the net output of agriculture clearly represents a rise in the net domestic product. As regards, market contribution of agriculture, the process of modernisation of agriculture leads to what is called the backward linkages (like supply of inputs and supporting services) and forward linkages (like marketing outlets) which ultimately contribute to the growth of domestic product. In a purely subsistence type of agriculture, the market contribution of agriculture to economic growth is zero. But the modernisation of agriculture involves a link through the market between the agricultural and non-agricultural sectors. Lewis has rightly stated that, "it is not profitable to produce a growing volume of manufacturers unless agricultural production is growing simultaneously. This is also why industrial and [illegible] go together, the economics in which agriculture is stagant do not show industrial development." With regard to the factor contribution of agriculture to economic growth, the growth of agricultural product is associated with the increasing use of labour displacing techniques resulting in a surplus labour that could be transferred from agriculture to other sectors for a gainful employment. Further, the modernisation of agriculture helps in transfer of capital from agricultural to industrial sector as happened in the Japanese economic development in the last two decades of the 19th century.

Agriculture is the predominant sector of the J&K economy, as it offers employment to about 71% of the working population of the State and contributes around 42% to state domestic product. Very little record is available about the agricultural activities in the State before Independence. At the time of Independence, the State was very much deficient in food grains, so the Grow-More Food compaign Programme was launched in 1948. About 9300 hectares of culturable waste land were distributed among peasants in 1948-49 under the scheme and in 1949-50 a further area of about 2500 hectare was put at the disposal of the cultivators for the production of food grains. The cumulative effect of all these efforts resulted in an increase of about 75000 qtls. in the annual production of food grains. Another important step taken by the Government pertained to the introduction of Land Reforms through legislations. But in spite of all these steps the State continued to be deficient in food grains after Independance when the first five year plan was launched in the State. One of the major objectives of States Five Year Plans was to improve agricultural standards with a view to making the State self-sufficient in food. The total food grain production which stood at 4267 thousand quintals in 1951-52 increased to 14036 thousand quintals in 1985-86. The contribution of agriculture towards net domestic product was Rs. 127.55 crores in 1970-71 and the same for 1985-86 was estimated at Rs. 190.12 crores at constant price (1970-71). However, such dependence is of no strength. It is a reflection more of the under development of other sectors, rather than of well developed agriculture.

The cropping pattern in the state is highly biased in favour of food crops. These cover nearly 80.50 percent of the total cropped area; and yet the state is deficient in food grains. Further, on making state comparision of value of out-put for food grains and main commercial crops per head per hectare basis at 1976-77 prices, the J&K State ranks 8th at All India level (Appendix-I). It has been found that no shifts in the cropping pattern has taken place in the state for the last four decades. The reasons for the same may lie in the nature of subsistance farming prevalent in the State. The importance of paddy, maize, wheat and other food grains cannot be undermined in view of the fact that the people need them for their basic food and any change in the price structure is not going to make any dent in the existing cropping pattern and the shifts can be expected to occur only when agriculture is commercialised accompanied with effective price support for commercial crops.

The immediate need of the developing economy is to increase farm production to meet the needs of growing population and expanding non-farm sector. It is therefore, necessary to adopt advanced agricultural practices to widen the range of production possibilities and, thereby radically transform agriculture. Eneavours of the State Government in the post-independent period to transfer traditional agriculture into a modern one has combined the institutional reforms with the rationalisation of technological relations. Institutional reforms in the agricultural setting embodies the abolition of Zamindari system, protection of tenurial rights, regulation of rents and distribution of surplus land amongest landless, marginal and sub-marginal tillers of the soil, with view to promote and strengthen the peasant proprietorship. Alongwith the land reforms major efforts have also been made to eliminate other "elements of exploitation" by strengthening the institutional financing of agriculture and promoting the cooperative marketing of agricultural produce. However, the agrarian structure still continues to be dominated by the marginal and sub-marginal holdings and other "built in depressors" which definitely do not augur with the modernisation of agriculture. The technological change embracing biological, chemical and mechanical aspects of agricultural activities appears to have bypassed the majority of the farms and farming section of the population. Thus the efforts of the State Government in the post Independence period to increase the efficiency and effectiveness of agriculture have not yet made a significant dent in creating self propelling force in the agricultural sector. It must, however, be emphasised that the task of developing appropriate technology for the hilly regions in comparison to plains is extremely difficult because of substantial diversity in the micro environment over a relatively short distance owing to variation in the topography, temperature, rainfall and length of the frost period coupled with the extremely small size of holdings and absence of further-scope for extension of cultivation make it imperative that agriculture should be organised in such a manner that the limited land is able to yield the maximum through the judicious application of modern technology adopted to various agro-climatic zones of the State, combined with increasing the cropping intensity by the introduction of short duration crops in the cropping pattern. Further, increasing the agricultural production in the State is not just a matter of quantifying various inputs, supplying them and waiting for bumper harvests but what is of crucial importance is the overall management of the different factors ....human and technological....in such a way that every aspect of a specific development programme can be monitored in its minutest detail. Without a comprehensive management strategy it is not possible to meet the projected targets.

Appendix I

Inter State comparision of value of output of foodgrains and main commercial crops in 1977-78 at 1976-77 prices per head per hectare of rural population.

State	*Rupees*	*Rank*
Punjab	3361	I
Haryana	1966	IV
Gujrat	1723	V
Karnatka	1584	IX
Maharashtra	1189	XV
Tamil Nadu	2516	II
Uttar Pradesh	1717	VII
Rajasthan	886	XVII
Madhya Pradesh	949	XVI
Andra Pradesh	1501	X
Orissa	1207	XIV
West Bengal	1870	V
Bihar	1314	XIII
Himachal Pradesh	1486	XI
Jammu and Kashmir	1703	VIII
Assam	1373	XII
Kerala	2014	III

Source: Statistical outline of Himachal Pradesh, 1983 Directorate of Economics and Statistics Himachal Pradesh, Simla Government of Himachal Pradesh
PP 382.

In the matter of farm production the neighbouring Punjab State has the highest growth rate of the agricultural sector in the country. This has not been due to big leap in wheat output alone but other crops like paddy, maize, oilseeds and pulses also lent support to the growth process. In addition, about 75 per cent of the cropped area has assured irrigation. This as well as the use of high yielding variety seeds with comprehensive management gave agriculture a degree of independence from the pervasive weather factors and helped in boosting up the output in this State. Thus development of agricultural sector in Punjab could act as a guide for the development of agriculture in J&K State conditioned to the fact that the climate do not act as an impediment. ■■■

An economic analysis of farm-firms in Rajasthan canal project area

R.S. Shekhawat and S.S. Acharya

The Rajasthan Canal Project Area lying in arid zone is characterized by very scanty rainfall, sandy and undulating soils and hot winds. Ground water is brakish and unfit for irrigation in most parts. Hence surface irrigation was considered the only alternative to have good crops in this drought prone area. The Rajasthan Canal Irrigation Project has made possible the cultivation of more than one crop in a year in the drought prone area where it used to be difficult to find even water for drinking. Government has alloted land in this area to land-less farmers, agricultural labourers, agricultural graduates and others. The economic analysis of farming in an area estimates and depicts the level of economic status of the farmers and farm economy at a point of time. It indicates the direction in which to move for attaining optimum utilization of arm resources and serves as a basis for formulation and execution of plan and strategy for development. A random sample of 39 holdings in four chaks of the Khajuwala tehsil in the Command area of Rajasthan canal project was selected for the study of farm-firm analysis.

The requisite data were obtained by interviewing the sample allotees with the help of a specially designed schedule for one complete agricultural year The data included resource postion, cropping and input use pattern, output, incomes and farm expenses, which were analysed to assess profitability and resource use efficiency on these farms. Input-output ratios and marginal value productivities were also estimated.

Results

General socio economic characteristics.

It was found that 69 percent families have migrated from other areas. The average family size was 7.36 members per family. About 87 percent of the total adults were engaged in farming. Even amongst children, 52 percent were doing farming. Only 18.12 percent of the total sample population was found literate and educated.

Capital assets, liabilities and net worth:

The average size of holding was 5.39 hectares with a range of 2.53 to 6.32 hectares. About 64 percent farms have draft animals with an average of 2.56 animals per farm. About 95 percent farms have milch animals with an average of 5.29 milch animals per farm. Out of total livestock, 28.68 percent were cattle, 3.66 percent were buffaloes, 58.29 percent were sheep. 7.89 percent were goats and 1.48 percent were other animals. Tractor was found with only 5 percent farms. Total investment in farm assets was estimated as Rs. 28244 per farm, out of which 55 percent was in land, 25 percent in live stock, 19 percent in farm implements and machinery and one percent in farm buildings.

Modern business, agriculture being no exception, depends for its financial requirements largely on credit. With the introduction of improved techniques of production, cultivation is becoming more capital intensive. Farmers' own capital resources are turning out to be insufficient. They have to, therefore, depend to a large extent on borrowed funds.

It was observed that farmers took loans from cooperative credit societies and commercial banks and to some extent from money lenders also for purchase of machinery and livestock and to meet out operational expenditure. The average amount of loans outstanding was Rs. 3656.41 per farm. In addition, farmers were to pay instalments of land due on them. The average amount, per farm, of instalments due on land was Rs. 8861.73 on 31st March, 1983. Total liabilities per farm was Rs. 12518.14. Thus average net worth of farms in the area was estimated as Rs. 15726.08 per farm.

Cropping pattern

The important crops were guar and cotton in kharif and wheat, mustard and gram in rabi season. The intensity of cropping was found to be low i.e. only 123 percent mainly because unlevelled land could not receive irrigation. Nearly 15 percent land was kept fallow in both the seasons.

The average yield of irrigated guar was 3.55 quintals per hectare. Whereas no production of unirrigated guar could be realised due to inadequate rainfall. The average yield of American Cotton was 4.01 quintals and of desi cotton was 2.65 quintals per hectare. The average yield of wheat was 14.32 quintals, of mustard was 4.75 quintals and of gram was 3.84 quintals per hectare. Although the average yields are slightly higher than the state average (except for gram) they are still not satisfactory in view of irrigation potential created through the canal. The reasons are unlevelled combined with salt affected land and low input use. The seed rates were almost equal to the recommended quantity. But the use of manure and fertilizer was very low. The use of plant protection measure was also inadequate except in cotton crop.

Farm expenses were estimated as Rs [illegible] hectare of the net cultivated area. The expenses on seeds was Rs. 134.78, on manures was Rs. 5.52, on fertilizers was Rs. 181.27 and plant protection measures was 16.91 per hectare. The expenses on irrigation was Rs. 74.56, on machines was Rs 204 and on bullock or camel use was Rs 285 per hectare

Farm business analysis

The results show that the gross income was Rs. 9777 per farm. The net income was Rs. 4244, family labour income was Rs. 2615 and pr fit was Rs. 1508 per farm. On per hectare basis, the gross income was Rs. 1849, net income was Rs. 803 and net profit was Rs. 285 per hectare.

There was wide variation in net income among farmer. The net income ranged from Rs. (-) 587 to Rs. 10416 per farm. The majority of farmers were in the income group of Rs. 2000 to 4000.

Gross income-farm expenses ratio was 1.77 and gross income-cost C ratio was 1.18 These farmers earned Rs. 33 per day for their family labour input. Out of total gross income 43.11 percent was net income and profit was 15.34 percent. These ratios reveal quite satisfactory level of efficiency on these farms.

[illegible]

To have an idea about the resource use efficiency in crop production as a whole, an aggregate production function was fitted to the input output data obtained from all the sample farmers. Cobb-Douglas type of production function of the following form was specified:

$$Y_i = B_0 X_{1i}^{B_1} X_{2i}^{B_2} \ldots\ldots X_{ki}^{B_k}$$

Where i = 1,2..............39 number of farmers),

B_0, B_1 ....B_k are parameters to be estimated,

Y_i = Gross value of output on the farm.

X_{1i}, X_{2i} ....X_{ki} are inputs

E_i = disturbance term with usual assumptions

First following six explanatory variables were considered:

X_1 = land in hectares

X_2 = Human labour in Rupees

X_3 = Irrigation in Rupees

X_4 = [illegible]rm power (Bullocks + Tractor + Thresher)

X_5 = Manures & fertilizer in Rupees.

X_6 = Other expenses (Rs) Seed, insecticides etc.)

As, often happens in production function analysis, considerable inter-collinearity was found to exist between the inputs. The simple correlation coefficients between these pairs of inputs are shown in Table.1.

In the event of high inter-collinearity between inputs a choice has to be made between them. In the second set of experiment, t[illegible]refore, considering the correlations between diffe[illegible] inputs, it was decided [illegible] add up expenses on human laour (X_2) and farm power (X_4) to d[illegible]nate this new variable which was called energy input (X_7). Similarly expenses on manures and fertilizer (X_5) and others (X_6) were added t[illegible]ether to define a new variable which was called Expenses other than irrigation and energy input (X_8)

Table 1

Simple Correlation Coefficients betwen logarithemic Values of different inputs

	Log X_1	Log X_2	Log X_3	Log X_4	Log X_5	Log X_6
Log X_1	1.00	0.47	0.56	0.56	0.27	0.63
Log X_2		1.00	0.86	0.81	0.70	0.76
Log [illegible]			1.00	0.83	0.82	0.79
Log [illegible]				1.00	0.67	0.85
Log [illegible]					1.00	0.87
Log X_6						1.00

Again high inter collinearity was observed. Therefore, it was decided to drop K_6 and add up irrigation (X_3) and manure and fertilizer (X_5) to define a new variable as X_9 The simple correlation coefficients between new variables are shown in table-2. Three input variables ($X_1 X_7$ and X_9) were not highly correlated. So the model defined earlier was estimated with X_1, X_7 and X_9 as independent variables. The estimated equation is as follows:

Model 1

$$Y = 3.8855\ X_1 \text{-} 0.1840\ X_7\ 0.7030^*\ X_9\ 0.3154^*$$

(0.2111) (0.1456) (0.0980)

R^2 = 0.8181 N = 39.

Where : X_1 = land in hectares

X_7 = Human labour and farm power in Rs.

X_9 = Irrigation, manure and fertilizer in rupees. All others have the same meaning as defined earlier (figures in the parentheses denote standard error of respective coefficient).

*Statistically significant at one percent.

The estimated coefficients for different independent variables were highly significant, except for land (X_1). The coefficient for land (X_1) was negative and non significant. Therefoe, again a new

model was estimated with X_7 and X_8 independent variables. The estimated equation is as follows:

Model 2

$$Y = 4.3\ X_7^{0.6446^*}\ X_8^{0.3264^*}$$
$$(0.1288) \qquad (0.0969)$$
$$R^2 = 0.8140$$

(Figures in parentheses denote standard error of respective coefficient).

*Statistically significant at one percent.

Table 2

Simple Correlation Coefficients between Logarithmic values of different inputs

	Log X_1	Log X_3	Log X_7	Log X_8	Log X_9
Log X_1	1.00	0.58	0.55	0.47	035
Log X_3		1.00	0.87	0.84	—
Log X_7			1.00	0.86	0.78
Log X_8				1.00	—
Log X_9					1.00

The coefficient multiple determination (R^2) indicates that 81.40 percent variation in the gross income was explained by X_7 and X_8. Regression coefficients in Cobb-Douglas production function are also the elasticity of prod-uction and thus the significant value of respective coefficient indicates the percent change in output which will be obtained by one percent change in respective inputs. Model one explains that a one percent change in human labour and farm power (X_7) will lead to 0.703 percent increase in gross income and a one percent change in irrigation, manure and fertilizer (X_7) will lead to 0.6446 percent increase in gross income and a one percent change in irrigation manure and fertilizer (X_8) will lead to 0.3264 percent increase in gross income.

Marginal value productivities of X_7 and X_8 were worked out at the respective geometric mean levels fo both the models and the same are presented in Table-3.

The MVP-FC ratios reveal that efficiency on these farms can be increased to a higher level. Return from investment in the form of human labour and or farm power is expected to be Rs. 1.47 to 1.61 per rupee while return from investment in the form of irrigation, manure and fertilizer is Rs. 2.39 to 2.47 per rupee This indicates the scope for more intensive farming in the area which can increase yields and income. The returns from investment in manures and fertilizer is expected to be more than in power and human labour under limited capital situation.

Table 3

Marginal Value Product-factor Cost ratio at geometric mean level.

Variables	MVP-FC Ratio Model 1	Model 2
X_7	1.61	1.47
X_8	2.39	2.47

Policy implications

Following implications emerge from the results of the present study.

(i) For full utilization of irrigation potential land levelling has to be given most important priority in the absence of which all the plots are not getting irrigation resulting in very low intensity of cropping.

(ii) The schedule of water supply should be prepared rationally by the management and farmers should be informed of this schedule well in advance of the sowing operations so that farmers could plan their corpping mix accordingly.

(iii) Water supply should be increased so that farmers are able to increase their cropping intensity which is very low at present.

(iv) Yields of most crops are low mainly due to lower input use. Yield levels and incomes of farmers can be increased by more intensive farming specially higher use of energy input manures. and fertilizers. Under limited capital situation, return from investment in manure and fertilizer is more than in erergy inputs. Therefore, more emphasis should be given to manure and fertilizer inputs. This necessitates two way strategy, one to provide technical know how to the farmers and two, to establish more input supply centres so that farmers are not reuired to trayel more than 3 to 4 km to procure these inputs.

(v) In general, infrastructural facilities like road, transportation and communication need emphasis. ☐☐☐

Emergency care vehicle

All India Institute of Medical Sciences, New Delhi has developed a vehicle for transporting persons involved in any medical emergency normally encountered like multiple injuries, head injury, abdominal injury, etc. to a nearby hospital. The vehicle has been designed for easy manoeuvrability through rough terrains and narrow lanes in small towns. The vehicle is also suitable in urban area as the specially designed stretcher will make bringing the patient down the stairs in multi-storeyed buildings by the one individual instead of four stretcher bearers. Facilities like power, water, etc. and provision for all necessary medical equipment/ stores have been provided in the design. With a built-in wireless communication system, the vehicle can provide service to an area within a radius of 10 kms from the nearby hospital. At present similar vehicles are being imported or received as gifts from other countries. But these are not suitable for Indian conditions. ■■■

Stagnation of the agricultural sector in Kerala

Dr. K.V. Joseph

The agricultural sector has been showing signs of stagnation since mid seventies in Kerala. After outlining the various causes that led the stagnation of agriculture in Kerala, the author says that innovative measures capable of raising agricultural productivity of the land under the ownership of non-cultivating owners and also tiny plots of land have to be chalked out. In this connection he suggests raising the land tax in the State to increase agricultural productivity.

THE AGRICULTURAL SECTOR WHICH constitutes the backbone of the economy of Kerala has been showing signs of stagnation since mid-seventies. The State income originating from agriculture has not recorded practically any increase after reaching the peak-level in 1975-76. In fact, there was a setback in 1986-87. The stagnation has been attributed to a number of factors like the diseases affecting some of the crops, frequent occurrence of droughts, fall in price of certain crops, and so on.

Nature and extent of stagnation

A fall in the income from agriculture points to a fall in the production of agricultural crops. A number of crops raised in Kerala have been recording falling trends in production. Simultaneously, there we also fall in the area under cultivation in respect of a number of crops. Table 1 indicates the extent of fall in area and output in respect of the important crops cultivated in Kerala.

All the crops which have recorded increase in area have recorded increase in output also except coconut and cashewnut. The crops which have recorded fall in output are rice, tapioca, coconut, arecanut has fallen. One the other hand, rubber, tea, coffee, pepper, ginger and cardamom have been recording increase in output. All crops which recorded increase in output have recorded increase in area also except tea. The crops which have recorded increase in output account for only 23 percent of the total area under crops and by and large all of them are cash crops. On the other hand the area under important foodcrops of the State, viz rice and tapioca which accounted for more than 40 percent of the cropped area in 1975-76 has fallen to 30 percent by 1986-87.

Table 1

Index of area and output of important crops cultivated in Kerala (Base Year 1975-76)

Name of the crops	*Index of area in 1986-87*	*Index of output in 1986-87*
Rice	75.00 (23.12)	83.06
Pepper	119.03 (4.48)	123 59
Tapioca	59.00 (6.71)	61.06
Arecanut	76.71 (2.1)	92.55
Cashewnut	122.47 (4.75)	72.49
Coconut	101.81 (24.60)	92.37
Tea	91.88 (1.20)	116.34
Coffee	159.14 (2.28)	163.59
Rubber	168.28 (12.11)	136.91
Ginger	142.15 (0.57)	165.23
Cardamom	116.18 (2.23)	121 95
Others	(15.85)	

(*Source:* "Statistics for planning 1988" (Dept of Economics and Statistics Govt of Kerala, Trivandrum)

Note: Figures in the bracket indicate the percentage of area under cultivation to the total cropped area in the State)

The total cropped area in the State which was 2,961, 378 hectares in 1975-76 has declined to 2,870,340 hectares in 1986-87. Significantly there was also a fall in the number of persons engaged in agriculture. The total number of persons engaged in agriculture, has decreased from 3,014,770 in 1971 to 2,789,859 in 1981. The index of productivity which was stated to be 106.55 in 1980-81 with 1970-71 as the base has increased to only 107.91 in 1986-87. The stagnation of agricultural sector is indeed a multifaceted phenomenon affecting almost all aspects of agricultural activities.

Calculus of profit and loss

It can be seen that the cost of production has been moving much ahead of the prices received by the farmers. The index of the cost of production with 1952-53 as the base went upto 1,386 by 1986 against only 895 in the case of prices received by farmers. Apparently, the rising trend in the cost production would be operating behind to the stagnation in the agricultural sector. Unfortunately, data relating to the cost of production of all the crops are not available. However, the Government of Kerala have prepared the details relating to the cost of production of six crops, viz. rice, coconut, tapioca, ginger, pepper and arecanut under different concepts of cost of production classified into cost A, cost B and cost C.

The average return in respect of all the crops except rice has been much higher than the cost of production. Definitely, rice cultivation cannot be stated to be remunerative. Even if the price of straw which was stated to fetch Rs. 983 per hectare is added, rice cultivation cannot claim to be profitable in terms of cost and return. No wonder, the area under rice cultivation has fallen in the State. On the other hand all the other crops have been sufficiently profitable as to retain the land for their cultivation. The position becomes somewhat anomalous because the area under cultivation of arecanut and tapioca the most profitable crops has fallen. Though the fall in the case of arecanut cultivation can be attributed to the desease affecting arecanut palms, the rationale for the fall in the area under tapioca is not clear. The area under coconut ginger and pepper is not falling, though pepper and coconut cannot claim to be very profitable. There can therefore be reasons other than cost of cultivation for providing an explanation to the falling trends in the cultivation of a good number of crops except perhaps paddy.

Price of land

As land is limited in supply in Kerala, the rental value of land would be pretty high. The calculation of rent involves lot of conceptual and practical difficulties. Further rent as such has been abolished in Kerala. Probably on account of these reasons, the Department of Economics and Statistics of the government of Kerala has calculated the imputed interest on the market value of land as an element in the cost of cultivation in lieu of rent and included it under cost B. The propriety of treating the interest on the market value of land as cost of cultivation has been under dispute (George 1988) . The manner in which market value of land has been ascertained is also not clear. Nevertheless, it highlights the scarcity aspect of land as a factor of production and brings into lime-light the level of land value and its increase. The level of price of land used for cultivating different crops and its increase would have been as given in table 2 for the period 1980-81 to 1984-85 on the basis of the data prepared by the Department of Economics and Statistics of the Government of Kerala.

Wide variations are discernable in the levels and rates of increase in the price of land used for cultivating different crops Among the crops, price of paddy lands was the lowest and coconut lands the highest. When price of coconut lands is so high and paddy lands so low it is but natural for the farmers to convert paddy lands into coconut gardens or other crops fetching higher prices. The abnormal increase in the price of land points to another aspect. The annual increase in the prices of land has been much higher than the return from the cultivation of the land at least in the case of some crops.

Mention may be made in this connection that Kerala has been experiencing some sort of a speculative rise in land prices since mid-seventies. The bulk of the migrants who purchase land belong to the non-cultivating class. The calculus of monetary and non-monetary benefits arising with the

Table 2

Land price in Kerala

	Price of land per hectare in				
Name of the crop	*1980-81*	*1981-82*	*1982-83*	1983-84	1984-85
Paddy	19,920	30,490	34,240	39,980	51 470
Tapioca	90,770	1,07,390	1,15,030	2,30,370	2,45,670 (172)
Arecanut	1,03,820	1,17,650	1,31,650	2,40,980	2,58,010 (149)
Pepper	70,580	74,030	82,020	2,02,810	3,11,690 (337)
Ginger	80,760	1,15,720	1,25,390	1,71,290	2,31,180 (187)
Coconut	1,17,080	1,24,420	1,48,630	2,52,800	3,57,660 (188)

(Source: *Statistics for planning 1988*)
Note: Figures in the bracket indicate percentage of increase in price.

(Contd. on page 21)

Pepper in India

Dr. V. Vigneshwara

Black pepper known as the "King of Spices' is the biggest foreign exchange earner among the spices produced in India. The author in this article laments at India's declining share in the world production and suggests many measures to increase the domestic production as well as export of pepper in the country.

BLACK PEPPER OF COMMERCE KNOWN as the "King of Spices" is the dried ripe berries of the perennial climbing vine Piper nigrum native to Western Ghats of India. Pepper along with cardamom are stated to be the earliest commodities of India's International trade, and it is now the most important export-oriented spice crop.

Peppre is essentially a crop of tropical climate. The Western Ghats regions consisting of whole of Kerala, coastal Karnataka, Tamil Nadu, Goa, and Maharastra are the traditional pepper growing states. At present, Kerala state also accounts for 97% of the area and production in the country. Unlike in most other producing countries, cultivation is almost exclusively undertaken by small farmers or small holders who have a few vines in their holdings or possibly in small gardens.

World productivity of pepper

Pepper is produced mainly in India, Indonesia, Malaysia, Brazil and Srilanka. These countries account for more than 95% of the world production. Till the late 1940's India's share in the world production of pepper was 80%. In these days, Indonesia and Srilanka accounted for 6% each of the production and Malaysia only 0.8%, India's share of world production was 66% in 1950. The position continued to decline steadily, coming down to the level of 26% now a days. As against this, the countries like Malaysia, Indonesia, and Brazil have steadily improved their position with regard to their contribution to world production and trade. Today Brazil, Malaysia and Indonesia are overtaking India's annual production estimated at above 50,000 M.T. It is expected that the production during the period 1989-90 in Brazil, Indonesia and Malaysia will be around 28,000 M.T., 41,000 M.T. and 22,000 M.T. respectively and that of India will be about 40,000 M.T.

Though India has over [illegible] of total area under pepper in the world, it accounts only for 28% of the production. The productivity of about 240 Kgs per ha, is also the lowest in comparison with the average productivity in Brazil, Malaysia & Indonesia and even in the world as a whole.

Export of pepper

Pepper is one among the major items of our exports which fetches the major part of our export earnings. We export black pepper and pepper products like pepper powder, green pepper, pickled green pepper, dehydrated green pepper, pepper oil and pepper oleoresin mostly to U.S.S.R. and East European countries in large quantities. As far as the export of black pepper is considered in 1981-82, USSR was the major importer of it and its share was nearly 71 percent whereas it declined to 49 percent in 1982-83 and 28% in 1985-86. On the other hand the imports of U.S.A. which was only 9% of the total exports from India in 82-83 has increased to 39% in 85-86 and now a days along with U.S.A., the Saudi Arabia is also one among the major importing countries for our exports of black pepper. Apart from these countries, the major importers of black pepper from India are G.D.R. Yugoslavia, Czecoslavakia, Poland and Italy. We exported the maximum of 40 thousand tonnes of pepper in 1985-86 however it came down to 25 thousand tonnes in 88-89 and in terms of value also the maximum earning was in 1984-85 from there onwards it declined sharply. Among the pepper products pepper oleoresin (a pepper product) contributes much to the exports.

India's position in the International market

Our share in the international market of pepper was 75% in 1947-49 (15.3 thousand M. tons out of 20.3 thousand M.Tons) but declined to 46.5% in 1961-62 which further declined to 10% in 1984-85 and at

present it is below 25% level, which clearly indicates that India no longer enjoys monopoly in the matter of export of pepper. The Table given below shows the position of different pepper producing countries of the world along with India in terms of their exports over the years.

Since Indonesia, Malaysia and Brazil took up the commercial cultivatin of pepper mostly as monocrop with scientific managements in the begining of the 19th century and the production of pepper in these countries increased very fast, consequently, our share of world pepper market started dwindling. However, since 1985-86, the situation in India has changed and a substantial increase in production and export has been noticed. However, the overall situtation, is not conducive for India as far as the future situation in the export of pepper is concerned, and hence there is need to increase the internal production by way of solving the present problems in it.

Problems

Low Productivity : The productivity of pepper in India is very low because pepper cultivation is mostly in the hands of small holders. In Kerala about 41 percent of the total holdings are 1ha or less in extent, 27% of the holdings are between 1-2ha and 15% of the holdings are between 2-3 ha in size. The productivity has shown steep decline from 315 kg/ha in 1955-56 to 194 kg/ha in 1984-85. All this indicates that there is virtually no organised cultivation on a plantation scale.

This low productivity is due to poor management, cultivation of poor genetic material, predominance of old and unproductive vines and poor yielding prevalence of pests and disease, non-availability of credit/subsidy facility etc.,

High Cost of Production : Because of the high cost of production in our country, competition with other producing countries is also becoming more keen, this is mainly because of the non-availability of low cost technology in different production aspects. (3) Inadequate availability of well rooted cuttings of high yielding varities. (4) There are serious diseases like a slow-wilt and Quick wilt and pests like pollu beetle which contribute substantially to decline in production and productivity. (5) Non-availability of suitable manure/fertiliser, plant protection chemicals. (6) Unstable prices which dissuade the farmers from making regular investments on farming and poor financial position of pepper growers (7) In the normal case there is no Government intervention in the marketing procedure or in the maintainance of price and this minimises the scope of getting a remunerative price for the product. (9) Absence of quality control methods for exportable pepper.

Remedial measures

The following remedial measures will be useful in order to increase the total production in India as well as the total exports of pepper from India.

(1) To increase the productivity there is a need for replacing the senile, diseased and unproductive vines with recommended varities like Karimunda, Kalluvalli, Kottanadan, Paniyur-I etc. There is dearth of planting material of superior varities and hybrids. Large scale production and distribution of rooted cuttlings of high yielding varieties through rapid multiplication methods are required to be planned.

(2) Low cost technology on different production aspects has to be popularised.

(3) An integrated approach involving agronomic practices, selection of resistant/tolerant varieties, need based application of pesticides, fungicides, biological control etc.

(4) Provision of medium and long term lonas for pepper cultivation.

(5) Farmers must be assured of remunerative prices without much market fluctuations. Export activities must have controls and realistic assessments in the interest of production centres. There, must be an assured and steady production trend in order to have stability in prices and earnings.

Exportable production of Pepper in Major Pepper Producing countries (in'000 tonnes)

Country	*81-82*	*82-83*	*83-84*	*84-85*	*86-87*	*89-90 (P)*
Brazil	42.4	40.0	22.0	30.0	35.3	23
	(31.5)	(29.7)	(22)	(30.6)	(20.4)	(21.4)
India	25.0	31.5	22.0	18.0	32.9	25.0
	(18.6)	(23.4)	(22)	(18.32)	(26.5)	(23.3)
Indonesia	38.0	38.0	30.0	25.0	37.9	31.0
	(28.28)	(30)		(25.5)	(30.6)	(28.9)
Malaysia	25.0	21.0	18.0	18.0	15.5	23.0
	(18.6)	(15.6)	(18)	(18.36)	(12.5)	(21.49)
Others	4.0	4.0	6.0	9.0	13.1	5.0
	(2.9)	(2.9)	(6.0)	(9.1)	(10.5)	(4.67)
Total	134.4	134.5	100.0	98.0	123.8	107

Notes: P — provisional, Figures in Brackets indicate percnetage of share out of the Total.

Conclusion

Since pepper is the biggest foreign exchange earner among the spices produced in India, there is a need to take up certain important steps as suggested earlier which will be encouraging its production and exports. As it is expected that the available exportable pepper in the major producing countries of the world will be around 1,07,000 tonns during 1989-90 which is far below than the demand (demand will be around 1,20,000 tonnes) this will be a morale booster for the producing countries since they can earn more foreign exchange. The overall situation in other economies indicates that the total production in the coming years will be sufficient to meet the demand and hence there is a vast scope to expand its production in India and export. The recent action of the Spices Export Promotion Council in instituting the Task Force and steps by the Ministry of Agriculture, Government of India and strategies planned for increasing production of pepper by adopting package programme will promote the developmental activities in this sector. Further the Agriculture Ministry has formulated a centrally sponsored scheme for encouraging pepper cultivation and the scheme has a total outlay of about Rs. 4.5 crores and is to be implemented in three years.

The scheme involves various kinds of activities such as subsidy on seedlings, subsidised supply of minikits & so on. All these steps indicate that the future prospects are brighter for pepper if implemented properly. Above all, there is the need for a stabilised production of pepper to the tune of about 60,000-65,000 M.T for capturing at least 25% of the world market in the growing international trade itself. This can be achieved only through planned development action programmes for increasing productivity in the potential areas in the country, market development programmes, research and development activities and extension services. ■■■

(Contd. from page 10)

There is another noticeable trend in the food practices. The consumption level of staples in diet i.e. wheat, potato, rice and maize etc. remain constant, irrespective of price changes. The changes in the demand of the preferred food i.e. meat vegetables, fruits and milk etc are also responsive to price movements. Not only this, even value added to the preferred foods i.e. canning, packaging, processing, flavours and grading etc. to add to their costs, thus varying their demand and consumption. If the prices of goods other than food rise, the fixed income group will spare less funds for buying preferred, sophisticateed or yummy foods i.e. meat, processed food, milk, fruits and vegetables, in the event of rising prices, the fixed income group's choice will shift in favour of staple food. In case, there is a rise in income, proportionate expenditure on staple food declines in favour of preferred food and services attached to it.

In a free market mechanism system, in the short term producers are unable to respond quickly to price changes, because of the time it takes to proudce extra output. This goes to show that the existing price mechanism, therefore, is unreliable indicator of what to produce and how much to produce ? Most of the farm products whether cereals, fruits, vegetables or meat products have long lead time and also fixed seasonality. Once a crop is established or breeding herd is built up, then production is almost inevitable, unless the same is to be prematurely destroyed. This contingency would only arise if the prices would have to fall to extremely low levels, before it would not pay to harvest a crop or slaughter an animal.

To the producers, existing prices are perhaps the best avilable evidence of what their future plans should be. Experience shows that the prices of farm products do not remain constant. Expectations of good prices in future need to take into account the avilability of certain other information to the producers such as stock levels, crop reports, planting intentions, chick placings and weather events together-with an understanding of the way the market works.

Investment in agriculture requires confidence as it is a risky proposition. This confidence can be very easily destroyed. Producers sometimes do over-react to shortages and surpluses, because their confidence is too high or low. It also reflects shift in the bargaining power between the sellers and buyers accordint to the level of supply. According to the simple principles of economics, in a situation of shortages, the producers should be the gainers. Drawing from the same clue, in the event of surpluses the producers should be the losers as the trend would reverse. In actual practices, this does not happen. Producers are never the gainers even in the event of shortages. In the event of shortages, the advantages are reaped by the buyers, intermediaries and retailers, thus taking the consumers and the producers for a ride. What should be the answer ? In order to ensure equitable flow of profits to the producers long term supply of the items is required. Long term supply of a particular commodity will only be possible if the farmers can be ensured sufficient reward to compensate for the risk. Risks are substantiat in agricultural markets, since the short term inflexibility of demand and supply can spurt marked and sudden price movements. In India, long supply and price stability seems to have been achieved in respect of the crops of wheat and paddy by the State Governments agencies and food Corporation of India etc. The prices of items like fruits, vegetables and meat products are still highly fluctuating and cause a lot of hardship to both the producers and consumers. These products are also highly perishable. In order to assure their long supply, assured markets have to be created and value added products have to be prepared from them. This calls for a renewed approach for their procurement and assured market of their surpluses including price support. A role of

greater leadership and assitance in terms of their preservation, trans-portation, referigeration and grading has to be played by the national and state agencies like NAFED, Agro-Corporations including the private sector. Remote and far flung areas too will have to be covered. Not only this, even the newly formed Ministry dealing with food processing has to encourage the public and private sectors to procure and process the perishable commodities at the remunerative prices which will help both the producers and consumers. □□□

(Contd. from page 17)

ownership of land counts with them in the purchase of land. Land in Kerala is highly productive than that of the land in any other part of India. Much of the land in Kerala is suitable for the cultivation of cash crops of perennial nature. Since the migrants belong to the non-cultivating classes the demand for such land would be high from them. Significantly the proportionate increase in the price of land has been much higher in the case of land utilised for cultivating cash crops like pepper or coconut than that of food crops. Thus the introduction of the speculative element in land prices coupled with the transfer of land into the hands of non-cultivating owners associated with Gulf phenomenon also contributes much to the stagnation of agriculture in Kerala.

Domination of non-cultivating owners of land in the Agricultural Sector

According to the land Reforms Survey of 1967-68 there were as many as 5.5 lakh agricultural holdings of the group 1 to 2.5 acres in size. Non-cultivating owners unde r this category accounted for 2.9 lakhs. The land owned by such class of people aggregated to 4.5 lakh acres which constituted more than 10 percent of the operational holdings covered by the survey. They prefer to get their land cultivated by hiring the services of labour. They would naturally prefer less labour intensive crops to crops like rice or tapioca which are labour intensive by nature. For them the most sensible course would be to raise permanent crops like rubber, coconut or pepper. Significantly, the area under coconut has increased in all the districts except Kottayam and Alleppey where coconut trees are seriously affected by root-wilt disease. Further, the total net area under crops has not fallen in the State. It has increased from 21,89,172 hectares in 1975-76 to 22,06,736 hectares in 1986-87. Only the gross area under cultivation has recorded a fall. In short the emergence of non-cultivating owne of land of different categories would appear to be t crucial factor in bringing about stagnation in t agricultural sector in Kerala. The reasons for the fall the number of persons engaged in agricultural sect as a whole can be attributed to such a change.

Policy optio

Since the area of land under the ownership of no cultivating owners display a tendency for t increase, the steps hitherto taken may not sufficient to enhance agricultural productivity and effect any recovery in the agricultural sector. At t same time improvement in the agricultu productivity is perhaps the only option open to Ker as land suitable for further extension of cultivation practically nil here. Naturally innovative measu capable of raising agricultural productivity of t land under the ownership of non-cultivating owne and also of tiny plots of land have to be chalked and implemented if the State is to make any progr in the agricultural sector. One of the sensible ste which can be pursued with a fair chance for succ in this context would be to raise land tax in the Sta Land tax in the State is perhaps the lowest in Ind On the other hand land is the most valuable asset Kerala fetching not less than Rs 1 lakh per hectare price for any grade of land. A moderate increase land tax will not be a burden to a landhold however tiny his holding might be. Instead it wo certainly induce all the landholders to make earnest attempt to raise agricultural productivity least for the sake of paying increased burden of t Introduction of graded system of tax with lower ra for paddy fields and higher rates for garden lands a plantations would certainly curb the tendency convert the paddy lands into coconut gardens a other types of land. ■■■

Indigenous Palm oil extraction Pla

The central Plantation Crops Research Instit has successfully cultivated oil palm in Kerala and evolved a technique appropriate for Indian holdi which are much smaller in size than the plantati elsewhere in the world.

CPCRI and Regional Research Laboratory (R Trivandrum together have fabricated a palm extracting plant suitable for Indian condition. T plant, which is made completely of indigen components has been designed and fabricated RRL, Trivandrum. It makes use of agricultural wa like leaves of palms from oil palm plantation factory fefuse for fuel. It costs around Rs. 16.5 la and can process 750 Kg palm oil in a shift of 8 hour has sufficient capacity for an oil palm plantation 200 hectares.

Strategy for increasing production of vegetables

Dr. S.S. Khanna and Dr. M.P. Gupta

Vegetables form a part of nutritions and balanced diet. Unfortunately the vegetable production in India has remained more or less stagnant despite the fact that India is the second largest producer of vegetables next only to China. In this article, the authors point out that the new seed policy which will help in liberalising the import of seeds of vegetables, will go a long way in increasing the production of vegetables. They also outline the measures that should be taken during VIII Plan to increase the production of vegetables.

AFTER ACHIEVING SELF-SUFFICIENCY in the production of foodgrains to the tune of 168.50 million tonnes during 1988-89, supply of nutritious and balanced diet to our people deserves the highest priority. The importance of vegetable production and consumption, therefore, need no emphasis. A minimum supply of 280 gm. of vegetable per capita per day has been advised by Nutritional Advisory Committee of the Indian Council of Medical Research. According to this standard, we need to produce 0.23 million tonnes of vegetables per day and the present annual requirement will be of the order of 83.0 million tonnes. In 2000 A.D. when our country's population is expected to reach over 950 million, the estimated vegetable demand will be of the order of 104 million tonnes annually.

The present estimated per capita consumption is reported to be 125 g/day, which is far below the minimum dietary requirements. Further, the diversion of almost the entire vegetables produced to cities, urban townships, etc, brings into focus the lopsided condition in vegetable consumption. A landless labourer in the villages is in a much worse condition than the comparable slum dweller in the cities in respect of vegetable consumption. Hence, disorders due to malnutrition like protein deficiency, calories, insufficiency, iron deficiency induced anamemin and blindness caused by lack of vitamins are more common in rural households. It is dishearning to note that the vegetable production in India has recorded only 3-4 per cent growth rate. There are manifold reasons for such a situation.

Since the country is endowed with most variable climate, a large number of vegetable crops are grown in different agro-climatic zones. The important ones, however, are : onion, garlic, tomato, brinjal, chillies, peas and beans, okra, cabbage, cauliflower, pumpkin, bottle-gourd, cucumber, water melon, musk melon, palak, methi, carrot and raddish. Potato, though a vegetable has not been discussed here, as it has been classed as a tuber-crop.

Onion is grown mostly in Maharashtra, Gujarat Orissa and U.P.; tomato in Maharashtra, Karnataka, A.P., U.P. and Bihar; Brinjal in U.P., Rajasthan, A.P., Maharashtra, M.P. Rajasthan, U.P. and Bihar; Peas in U.P., Haryana, Punjab, M.P. Bihar and Rajasthan; Okra in Punjab, U.P., Haryana, Punjab, M.P. Bihar and Rajasthan; Okra in Punjab, U.P., Bihar, Rajasthan, Punjab, Haryana, A.P., Karnataka and Tamil Nadu; Palak and Methi in Northern and Eastern India and Tamil Nadu.

Present status of vegetables

Low Consumption: Low consumption of vegetables is partly due to higher prices.

(ii) *Low Production level* : The low per capita consumption is partly due to low production level of vegetable crops in the country. The present estimated area in vegetable crops is estimated to be around 4.0

million has with a production figure of about 45 million tonnes by the end of 1990. At the level of 200 gms. per capita per day, we may have to produce around 55.5 million tonnes. Predictably the population may increase from 800 to 822 million and the requirement will shoot up to nearly 60 million tonnes which works out a shortfall of 15 to 20 million tonnes by the end of 1990. Even these proections are purely approximate, since authentic prouction statistics are not avilable.

(iii) *Low Productivity:* Inspite of India being the second largest producer of vegetables next only to China, the vegetable production has almost remained stagnant. China increased the vegetable production from nearly 70 million tonnes in 1975 to 90 million tonnes in 1985 and its growth rate works out ot 6.4% during 1982-1985, while in the case of India, the increase was at a slow rate of 2.5% only. The low productivity is the main bottleneck of reduced availability of vegetables. The yield levels in some important vegetable crops are presented in table 1.

Table 1

Average Yield of different vegetables (Yield in tonnes/ha)

Crop	*Developed Countries*	*Developing Countries*	*World average*	*India Experimental field yield*	*India Farm yield*
Cabbage	25 17	17.28	21 34	20.50	6.03
Caulif lower	16.90	10.15	13 29	50 65	7 33
Peas	6 24	3 17	5 25	7 11	2 90
Onion	17 24	9 84	12 27	20 50	7 50
Tomato	27.46	15.61	20 99	15 65	9.15

There is, therefore, a great need now to intensify research and extensition work for boosting productivity in vegetable crops. Wastage, lack of research back-up, non-availability of cold storage facilities add to the present status of vegetables

The Government of India appointed a Group on Perishable Agricultural Commodities. in Jannuary, 1981 under the chairmanship of Dr. M.S. Swaminathan to study the fluctuating prices and the need for long term arrangements to protect the interests of both producers and consumers in the case of perishable agricultural commodities. The Group made many recommendations regarding the marketing, storage, packaging, transporting and processing of vegetables and fruits. One of the suggestions of the Group was to create a National Horticultural Board at the national level so as to provide the needed degree of coordination and monitoring of the production an marketing of horticultural crops with the help of experts.

New seed policy

The New Policy on Seed Development has liberalised the import of seeds of coarse cereals, oilseeds, pulses, vegetables, flowers, ornamental plants and fruits. Under this, the import of seeds of vegetables has been liberalised and now it is possible to import vegetable seeds of different High yielding Varieties under Open—General License. The liberalisation would make available the new and High Yielding Varieties of vegetable seeds not easily available in the country which have proven their record production in other countries. This would also enable us to grow new varieties of vegetables which may have ready market in other countries and enable us to earn valuable foreign exchange. Many private seed agencies have already taken up the process of importing seeds of High Yiedling Varieties of vegetables and in due course of time it could be made available to the farmers for mass cultivation. With the new High Yielding Varieties of vegetables being available to the farmers would also provide them increased agricultural employment becuase vegetable raising requires lot of manual labour which could easily be found with most of the farm families. Better employment opportunities available with the farmer and his family members at their own farm would generate higher incomes which would result in the welfare of the farm families.

A Central Sector Scheme entitled, 'Augmenting Vegetable Seed Production' with an outlay of Rs. 160.00 lakhs has been approved which will be implemented during the year 1989-90. The main components of the scheme are augmenting vegetable seed production through agricultural universities and ICAR Institutes, supply of minikits and bufferstocking of vegetable seeds through National Seeds Corporation.

Constraints

Several constraints have been inhibiting the growth of vegetable cultivation. They are:

Absence of organisational set up at central and state level:

Non-availability of reliable statistics of production.

Barring onion, chillies, garlic, potatoes and other tuber crops, no reliable statistics on area, production and productivity of vegetable crops are available, inadeqnate is the finance allotted for vegetable production (say Rs. 8 crores in VII Plan), absence of integrated approach with various rural development programme poor marketing system, non-availability of quality planting material, low productivity & use of traditional vegetable production techniques

Improved varieties of vegetables

The Indian Council of Agricultural Research has recently released a few improved varieties of different vegetables which have very high yield potential.

Targets of production

With the intensification of developmental and research back up in vegetable crop, we should aim at

a target of increasing vegetable production and productivity in the next decade (Table1-2). The targets can be achieved by properly organising vegetable production and marketing through a series for measures, e.g.:

Increasing production and productivity of different vegetable crops through high yielding, disease and pest resistant varieties, assured and timely supply of seeds, fertilisers and pesticides alongwith technology package, in different states and Union Territories of the country. (2) Producing adequate quantities of breeder, foundation and certified seeds of different improved vegetable varieties. (3) Intensification of research efforts in priority areas to solve important problems of vegetable production. (4) Establishment of service centres for supply of inputs to the growers and creating awareness about the improved technologies in selected pockets through different lab to land programme and other extension services. (5) Assisting the development workers in training and imparting latest and well-proven techologies. (6) Helping modernisation of the post harvest handling machinery and processing technology. (7) Promoting awareness of importance of vegetables in Indian diet through extension activities particularly in villages.

Table 2

Projected targets

Duration	*Area (Million ha)*	*production (Million tonnes)*
1. Present	4.0	40.0-45.0
2. Shrot-term (1990-95)	7.5-8.0	70
3. Long-term (2000-20001)	12.0	125

The major projection of the VIII Five Year Plan should be to make the country self-sufficient in the requirement of vegetables and to enter the International Trade of Vegetables in a big way. There is a good scope for export of vegetables like onion, chillies, beans, peas, brinjal, tomato, gourds and cole crops in different markets both in Gulf countries and South-East Asia.

Thrusts during Eighth Plan

Though seed is the major input in the vegetable production, its multiplication and distribution have not been streamlined. National Seed Corporation and State Seed Corporations are able to supply only 5 to 10 per cent of the vegetable seed requirement of the country. Private seed agencies supply about 20-25 per cent of the seed of round vegetable varieties and the rest is managed by the farmers who keep their seeds. Thus, it is obvious that there is huge scope in the production and distribution of seeds of vegetable. The National Seed Corporation and the State Seed Corporations do not have necessary infrastructural facilities. Therefore, it is suggested that a separate Vegetable Seed Corporation may be established. Vegetable seed production requires high technology and seed multiplication programmes involve sufficient input from plant breeders. This new Corporation may be assigned with this job and provide with adequate funds to fulfill the jobs assigned to it. The new seed policy is also helpful in importing new plant materials from different countries and would suitably augment the supply of new and high yielding varieties of vegetables.

Area under vegetable crops should be expanded. Establishment of a National vegetable Reserch Institute to improve productivity should be accorded high priority. A Vegetable Extension Service System should be part and parcel of this Vegetable Research Institute so that the transfer of technology is carried to the doors of the farmers. At present, the export of vegetable is undertaken by large terminal markets. The export is generally handled by private traders on the basis of the information gathered by them from the nearby importing countries. The supply is generally purchased from terminal markets and is exported on the basis of availability of vegetables in these markets. It is suggested that the export of vegetables should be linked with the production on the basis of market survey of foreign markets. A definite schedule of production and marketing may be worked out. At the terminal markets, proper cleaning and packaging of vegetables should be done so that the buyers in the foreign market are able to receive the vegetables in fresh form.

Now a days defence requirements of vegetables are mainly processed and export of processed vegetables from India has not made any dent in international trade. During the year 1987-88, 1792 tonnes of processed vegetable valued at Rs. 306 whereas during the same year 1.7 million tonnes of total vegetables and processed products were exported valued Rs. 6619 lakh. Suitable high yielding varieties of vegetable which would meet the specific requirment of the processing industry to lower the cost of finished product, is the major requirement of vegetable processing. Sufficient research input is necessary in this direction to develop the processing varieties. An integration of production with processing in necessary and captive areas of production should be developed where processing industries are located. With the increasing interest in the fast food manufacturers, demand for vegetables by the processing industries is bound to increase and both the vegetable growers and the producers to come together to utilise the market potential.

It is estimated that about 30 per cent of the vegetables are lost after harvest. Efforts should be made to minimise these losses by way of providing suitable packaging of vegetable reach the consuming centres in good condition and in less possible time.

It is also suggested that farmers produing only vegetables should be provided easy loan facilites.

Production of Pulses

S.M. Mundinamani, Basararaja H. and Hosamani S.B.

The area and productivity of pulses during the last two decades have been fluctuating and hence the production has remained stagnant. In this article the authors analyse the constraints in the production of pulses and the same times suggest measures to increase the production of pulses.

PULCES ARE THE MAIN SOURCES OF protein for the predominantly vegetarian population of India. They are also used as fodder and concentrate for the cattle. The vital role of pulses in fixation of the atmosphoric nitrogen needs no emphasis which infact, is very crucial in the face of sky rocketing nitrogenous fertilizer prices in our country. In comparison with the growth in production of food grains with the advent of Green Revolution, the growth in production of pulses is rather disappointing and has led to a consequential rise in prices of pulses. The area and productivity of pulses during the last two, decades have been fluctuating and hence, the producttion has remained almost stagnant. The growth in production of pulses like any other crops is largely determined by the growth in area and productivity. Either an increase in area under cultivation or an improvement in the productivity levels or a combination of both is expected to improve the production level.

In the world context, India produces about 24.5 percent of the total pulse production while in acreage India stands first accounting for about 33.8 percent of the world pulse area. But the yield levels (529 kg/ha) is very low as compared to the world average (729 kg/ha). In India, pulses are grown in an area of 23.8 million hectares with a total production of 12.8 million tonnes.

The major pulse growing states in India are Uttar Pradesh, Madhya Pradesh, Rajasthan, Andhra Pradesh, Karnataka Bihar, Maharashtra and Orissa. These eight states account for nearly 85 per cent of area as well as production of pulses. The important pulses grown in India are bengalgram, redgram, blackgram, greengram, lentil, peas, hoursegram, cowpea etc. Among these, bengalgram and redgram are the two major pulses accounting for about 46 and 63 percent of the total area and total production of pulses respectively.

In view of the importance of pulses in the human diet, there is an urgent need to improve the pulse production in the country which calls for an indepth study of constraints of pulse production and suggest appropriate strategies to improve the production and marketing system of pulse crops.

Constraints in pulse production

The major constraints in the production of pulses are discussed hereunder:

Environmental constraints: Most of the area under pulse crops in India is rainfed and are grown mostly under marginal and submarginal lands. Sufficient and timely rainfall is an essential pre-requisite for a good harvest. In India, however, in-sufficient erratic and unevenly distributed rainfall severely affected the pulse production and has led to slow and negative growth of area and stagnation of production of this crop. The other natural hazards like pests and diseases eventually have made the cultivation of pulses a risky and unprofitable enterprise. This has severely affected the application of some of the strategic inputs like fertilisers to pulse crops. Consequently the yield levels are highly unstable.

Technological constraints: Paucity of a large range of stable high yielding varieties suitable to rainfed conditions and pests and disease resistant, lack of improved farm implements, lack of appropriate post harvest technology to prevent post harvest losses and deterioration in quality are some of the technological constraints.

Socio-economic constraints: Most of the farmers are small and marginal with limited capital to invest on the strategic inputs. Further, pulses being grown mostly under rainfed condition become highly risky enterprise, grown mostly under poor crop management resulting in low and unstable yields.

The social constraints like belief, tradition, education etc. limit the progress of transfer of

(Contd. on page 34)

Linear Programming model for cotton mix

Asaithambi

A textile mill uses more than one variety of cotton as raw material to manufacture yarn. The ratio of mix has so far been decided on the basis of subjective past experience which is no longer considered adequate. In this paper an attempt is made to formulate a linear programming model to determine the raw material mixing ratio in such a way that the mixing cost is the minimum possible, ensuring at the same time production of quality yarn.

COST OF COTTON CONSTITUTES A MAJOR portion of total cost of yarn in a Textile Mill. Considerable economy in cost of cotton is possible by better blending of different varieties of cotton without lowering the yarn specification especially when there is fluctuation in the price and quality of cotton

A typical cotton texitle mill uses a number of varieties of cotton available in the market, to produce different counts of yarn to meet market demands. Each count of yarn must conform to certain market standards and should fit into the overall objective of the concern. Since the mill is predominantly depending on cotton, which is an agricultural product, it is affected by the vagaries of the cotton market. Similarly, being essentially a consumer goods industry, it is affected by the changes in the pattern of consumer behaviour. The hazards of Government controls both on cotton as well as on cloth and yarn constitute the third type of bugbear which has to be faced. Since an individual mill cannot influence either the price of cotton or of cloth to any significant extent, it organises its purchasing, manufacturing and selling activities in such a way as to exploit the market potentialities in an optimal manner. So planning activities are undergoing phenomenal changes. The days of planning by insightful planners based on subjective past experience are no longer considered adequate. Between insightfulness and experience, scientific techniques of planning are creeping in.

This article aims at constructing a Linear programming model to decide the proportion of each cotton that is mixed to get a certain count of yarn with specified quality levels in such a way that the mixing cost is the minimum possible. Usually various types of cotton are mixed together in predetermined proportions, which are normally selected by trial and error method, instead of manufacturing yarn from a single cotton. The purposes behind this are:

1. To take advantage of the desirable characteristics of each quality of cotton; and
2. To obtain desired quality of yarn at a minimum cost.

Linear programming

Of all the well known operations research models, Linear programming models have been by far the most productive, as measured by its effective application to the solution of a great variety of large scale problems in business and industry. The advent of high speed digital computers has made it practical to solve with incredible speed problems involving hundreds or even thousands of decision variables. Basically Linear programming is a deterministic mathematical technique which involves the allocation of scarce resources in an optimal manner on the basis of a given criterion of optimality.

The Linear Programming has the following characteristics:

1. Determination of the objective function which is minimization of cost (or maximization of profit).
2. Determination of basic relationship between the objective function and the demands on the available resources, especially if there are limiting factors.
3. All the factors and the relationships are completely deterministic having no stochastic elements, that is probables.
4. Arriving at the optimum solution.

Formulation of the model

The proportion of each cotton in a mix shall be decided in such a way that the mixing cost is the

minimum while the quality is equal to or better than a certain specified standard. This can be expressed as a linear programming problem in the following manner.

Minimize the objective function

$Z = C_1 X_1 L + C_2 X_2 L + \ldots\ldots Cn\ Xn$

Where C_1, C_2..........Cn are the pries of Cotton used 1,2,3..... ....n are the mixing and X_1, X_2..............Xn are the proportions of each cotton in the mixing. The objective is to minimize the mixing cost but at the same time the mixing shall satisfy the specified quality levels. The quality levels may be specified in the terms of individual fibre properties as given under

$L = L_1 X_1 + L_2 X_2 + \ldots + Ln\ Xn$ is equal to or better than a given standard.

$S = S_1 X_1 + S_2 X_2 + \ldots\ldots + Sn\ Xn$ is equal to or better than a given standard

$M = M_1 X_1 + M_2 X_2 + \ldots\ldots + Mn\ Xn$ is equal to or better than a given standard

$F = F_1 X_1 + F_2 X_2 + \ldots\ldots + Fn\ Xn$ is equal to or better than a given standard.

Where L_i S_i M_i and F_i ($i = 1$ to n) are the 50 per cent span length, strength, maturity Co-efficients and fineness of the individual cotton variety and L, S, M & F are those of the mixer. These are the four measures of qaulity of cotton and yarn used in textile industry The model can be designed for each count of yarn viz 20s, 40s, 60s, 80s and 100s for each count of yarn the specified minmum quality levels are fixed. Table I shows the quality levels required for different counts as worked out by Southern India Textile Research Association (SITRA), Coimbatore

Each lot of cotton is to be tested to ascertain the level of four qualities considered. For simplification, three varities of Cotton which are mixed to manufacture 60s Yarn are considered for this analysis The test result and the prices of one particular lot of each variety of cotton are given in Table II (Source · SITRA)

An Illustration

Let us construct the LP equations for 60s (Count) yarn considering the three varieties of Cotton shown in Table II. Let X_1 X_2 and X_3 be the percentage to be used in the mixing of cotton varieties Shankar -4, MCU5 and Varalaxmi respectively. The prices of each variety of cotton per Kg. are used in the objective function. The objective function can be expressed as,

$$\text{Minimize } Z = 13.50X_1 + 15.18X_2 + 15.92\ X_3$$

where the co-efficients of X_1 X_2 and X_3 are the respective prices of cotton per Kg. The above function is required to be minimized subject to the constraints described below.

(i) 50% Span length
$13.1X_1 + 12.9X_2 + 11.7X_3 \geqslant 12.7$

(ii) Strength (Stelometer Value)
$21.7X_1 + 25.6X_2 + 26.1X_3 \geqslant 21.5$

(iii) Maturity Co-efficient
$0.85X_1 + 0.71X_2 + 0.88X_3 \geqslant 0.85$

(iv) Fineness (Reciprocal of micronaire value)
$0.275X_1 + 0.224X_2 + 0.287X_3 \geqslant 0.270$

(v) Unity
$X_1 + X_2 + X_3 = 1$
(ie proportion of each mixing shall total One).

(vi) Non negativity
$X_1, X_2, X_3 \geqslant 0$
(i e proportion of each cotton cannot be negative)

Then the equations are solved for X_1, X_2 and X_3 using simplex method by computer The use of Computers for the solution of the simplex method of LP has made the technique more useful for forward looking planning and decision making purposes

Table I

Minimum Quality Levels of Yarn

Sl No	Counts	50% span length	Strength	Maturity Co-efficient	Fineness
(1)	(2)	(3)	(4)	(5)	(6)
1	20s	9 9	17 0	0 82	0 222
2	40s	11 7	19 0	0 83	0 224
3	60s	12 7	21 5	0 85	0 270
4	80s	13 5	25 0	0 88	0 270
5	100s	14 7	29 0	0 88	0 278

Table II

Particulars of cotton varieties

Sl No.	Name of the cotton variety	Price per Kg (Rs.)	50% Span Length	Strength	Maturity co-efficient	Fineness
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Gujrat Shankar-4	13 50	13 1	21.7	0 85	0 275
2	MCU 5	15 18	12 9	25.6	0 71	0 224
3	Varalaxmi Idar	15 92	11 7	26 1	0 88	0 287

Additional constraints

In addition to the quality constraints considered in this analysis there may be some peculiar constraints faced by an individual concern LP modal has the built-in flexibility to accommodate such additional constrainst also Two types of such Constraints are discussed below·

(i) A particular variety of cotton may be purchased in the market at cheaper prices, of course with lower quality. This cotton may not be considered by the solution given by the model. If the organisation wants to utilise this variety as a certain percentage of mixing

(Contd. on page30)

Impact of national water technology mission in the North East

Dr. B.K. Paul

The National Water Technology Mission aims at providing safe drinking water to the entire rural population in the country by 1990. This multi-pronged programme has generated country-wide enthusiasm and a chain of activities. The author attempts an analysis of the impact of this mission in the North-East through this article.

IN 1981, HAVING BEEN A SIGNATORY to the International Drinking Water Supply and Sanitation Decade, India got committed to provide safe drinking water to all her vilalges by 1990. At the time only about 30 per cent of the villages in the country was reported to have been covered by drinking water facility. Besides attempting to streamline and strengthen the existing channels of Public Water Supply systems, several incentives and tax concessions were announced even to the private organizations, such as the Chambers of Comerce, in order to achieve the goal. The mid-decade evaluation of the progress revealed a dismal picture and a backlog of 2.27 lakh problem villages (39 p.c. of the total villages) with sources of water at least 1.6 Km or more away and with rampant problems of fluorosis, iron, brackishness, bacterial contamination and guinea-worm infestation. This led to the launching of "Technology Mission on Drinking Water in villages and Related Water Management" as the most important of the five Societal Mission initially announced by the Prime Minister.

Broad line of approach

The objective of the Mission was sought to be achieved through a multi-pronged endeavour involving even the private and voluntary organizations through cost-effective, simple and quick means with the application of appropriate science and technology inputs. The whole idea aimed at supplementing the efforts of the State Government in providing safe drinking water facilities to the entire rural population in the country. Thus, the concerned State departments (P.H.E. departments in most of the States) are the implementing agencies for the Mission programmes. The requisite funds is channelised through the Department of Rural Development and Science and Technology inputs are sought to be provided primarily in collaboration with the Council of Scientific and Industrial Research (CSIR), Department of Defence Research and Development and Central Ground Water Board.

Sequence of execution of work

The prerequisite for any meaningful planning is an authentic and reliable record regarding the present status. Thus, for achieving the objectives of the National Water Technology Mission, it is considered desirable to have prepared villagewise data banks first which would provide an idea about the number of villages, population structure, present status of water supply and the actual need. The next step would be to locate the sources, assess the quality and determine the need on the basis of which districtwise detailed project reports are requied to be prepared to assess the fund requirements and to make viable planning for implementation of the schemes. The

sequence of execution may be broadly outlined as water availability, water quality and water distribution.

The execution of the WTM schemes in each Mini-Mission district is supposed to be under the control and supervision of an Executive Director who is responsible for taking steps to prepare the detailed project report, utilize the sanctioned grant, implement the projects and monitor the progress. Delay in appointment of Executive Directors by some of the States has adversely affected the pace of progress.

Present scenario in the North-East

The North Eastern Region comprises of hardly 2.2 per cent of the total of 5.75 lakh villages in the country. Although the percentage appears rather small, the problem is puzzling in view of the diversity of climate, topography, inaccessibility and habit pattern. Added to this, social stigma and lack of awareness is more acute in the rural areas of this region than in many of their counterparts in the country. While fairly encouraging progress is possible in some parts of this region, it is bound to be fraught with unanticipated difficulties in other areas. Nearly 51 per cent of the North-east is beset with difficult terrain, most parts of which have hardly any communication facilities. Even today a district headquarter like Anini in Arunachal Pradesh can be approached only by trekking for days together and the heads and backs of the people are the only means of transport in most of the far-flung hill areas in the North-east. Still prevalent practice of *Jhumming* makes people move from place to place in every two to three years.

In such circumstances, it is hardly possible to make any permanent arrangement of rural water supply in migratory villages for which it is not possible to have any fully reliable data regarding the location and population structure of the tribal villages in the region, which constitute the bulk of the rural areas The density of rural population in the North-East is also peculiarly diverse ranging from 8 per Sq. Km in Arunachal Pradesh to 254 per Sq. Km. in Assam, against the all-India average of 216 per Sq. Km. The Public Health Engineering departments of the States of this region have made fairly good dent in providing drinking water facility in the plains of Assam, Manipur and Tripura, but any tangible result in hill areas is still a far cry, barring some pockets in Meghalaya and Mizoram. Whatever attempts have been made so far for installation of water treatment plants in the rural areas may be considered as experimental exercises.

Implementation in the North East

Out of the eleven pilot districts selected in the whole country for implementation of Water Technology Mission programmes in the first phase, the North-east was fortunate to have been considered for two-West Khasi Hills in Meghalaya and Aizawl in Mizoram. During the second phase, a total of 55 districts came under the purview of being considered as Mini-Mission pilot districts. Of these, at least one from each of the seven sister States of this region have been included. It was envisaged that work in these Mini-Mission districts would be initiated substantially by 1987-88. While encouraging progress has been made in the West Khasi Hills and to some extent in Aizawl, Darrang and North Tripura districts; little is known in respect of others, namely Cachar in Assam, East Siang in Arunachal Pradesh, Kohima in Nagaland and South district in Manipur.

Water analysis facility

Water quality assessment is considered an indispensable routine activity for public health maintenance, but it is surprising that except for Arunachal Pradesh and Tripura, no other State in this region has even a moderately equiped water analysis laboratory under the control of the State PHE department. The Government of Mizoram has recently established one such laboratory, but at the moment it is manned by only one chemist which is really ridiculous. The Manipur Government is also in the process of establishing such a laboratory, which is still in an embryonic stage needing urgent attention. The CSIR laboratories like ITRC–Lucknow, NEERI–Nagpur and RRL– Jorhat have conducted a number of training programmes for water analysis in all its aspects and all the State PHE departments of the region have taken advantage of these programmes. It is considered desirable that these trained personnel be put to effective use before they forget whatever they have learnt theoretically and practically during these training courses. Realizing the extremely poor water quality assessment facilities in the country, the Central Mission Directorate has now decided to set up one water analysis laboratory in every district in the country. Although this is a welcome decision, it is doubtful whether such arrangement can meet with the requisite need in all aspects. It is considered desirable that every district in the country should have a mobile water analysis laboratory which will go from place to place in the district and carry out analysis on the spot, not only from the water sources, but also from the supply point. Only such a step can ensure quality of drinking water as also the guideline for correct approach towards that goal.

In the absence of appropriate water quality assessment facility with States PHE Departments of the region, two of the CSIR laboratories were asked to help the state Governments in detailed water analysis and in getting requisite personnel trained. The Industrial Toxicology Research Centre at Lucknow and the Regional Research Laboratory at Jorhar, have been actively engaged in the water quality assessment in collaboration with the respective State departments and the CSIR Polytechnology Transfer Centre at Shillong. On the basis of the findings of ITRC, Lucknow, schemes are being implemented in West Khasi Hills and Aizawl districts by the respective PHE departments. RRL– Jorhat has completed the water quality assessment in Darrang and South Manipur

districts, and has started such study for Cachar district also.

Surface water sources

As desired by the Central Mission Directorate, source finding committees have been constituted in most of the States of this region to advise the implementing agencies in the matter of appropriate water sources and their management. The Central Ground Water Board is playing a key role in this regard. Training-cum-demonstration on iron removal were organized at Agartala and Tangla (Assam) in collaboration with National Environmental Engineering Research Institute, Nagpur. Such demonstration-cum-training on rain water harvesting were also organized in Manipur, Meghalaya, Nagaland and Tripura in collaboration with Structural Engineering Research Centre, Ghaziabad, who are also planning such camps for Assam shortly. The impact of the training-cum-demonstration programmes on Iron-removal and Rain-water Harvesting has been encouraging. The Government of Meghalaya has taken a policy decision to replace all the existing CGI water storage tanks with ferro-cement tanks. They have also constructed over 600 Water Storage tanks in Nongstoin area during 1987-88 using ferro-cement filters. The Government of Assam has also taken a decision to construct about 1000 ferro-cement tanks in rural areas shortly. Quite a few young entrepreneurs of this region have already approached CSIR to adopt NEERI iron-removal technologies for their widespread use in rural areas of this region.

Although groundwater exploration and utilization may be considered ideal, the tapping of surface sources with proper treatment needs to be given full attention since people in this region have been traditional users of surface water Simple technologies such as the use of water filter candles and chlorine tablets need to be popularized extensively in rural areas for the treatment and purification of surface water Ferro-cement storage technology for rain water harvesting deserves extensive adaptation in hill villages having plenty of rain but scanty ground water exploration prospect.

Importance of public awareness

The most important factor for the success of any scheme is the public awareness. This point, although emphasized eminently in the mission objectives, has received little or no attention as yet in the North-East It is a common knowledge that despite painstaking efforts by the government in installing tube wells and other facilities for public water supply, the rural people by and large have ignored their importance and usefulness in preference to traditional practice of water use with little regard for quality. This has resulted in virtual failure of the purpose in many cases. So, the most prominent aspect for any tangible impact of the National Water Technology Mission in the North-East, and for that matter in any region of the country, should be a massive drive for public awareness.

The involvement of various voluntary organizations and the State S & T Councils can be expected to play effective role in this regard In the Sixth All-India Workshop of State S&T Councils held at Bhubaneswar in February 1988, a strong plea was made that the State S&T Councils/Departments should be fully involved in the implementation of the National Technology Mission programmes It was recommended that the Office of the Adviser to the Prime Minister on Technology Missions might be requested to initiate a process whereby the State S&T Councils/Departments are fully involved in the implementation of the various Mission Programmes. This very important decision has yet to make any impact in the North Eastern States ■■■

(Contd. from page 27)

to avoid idle stocking, new constraint equation can be added to the model formulated above Let X_1 be the variety of cotton in question and 25 percent be minimum to be mixed, then the new equation to be added is

$$X > 0.25$$

(ii) Similarly when the price of a cotton variety is comparitively low and it meets almost all the quality requirements, the model will give more importance to that variety But it may not be avaiable in sufficient quantity. In such a situation a new constraint equation can be added to restrict the proportion of this variety in the total mix to a certain level. For example, if the proportion of cotton X_1 in the mixing is to be restricted to 25 per cent, the new equation added will be, $X < 0.25$

Conclusion

Each cotton lot can be tested and the results incorporated in the model alongwith new price and it can be solved for the new proportion of each cotton in the mixing This can be done for any number of yarn varieties utilising computer facilities. The model will always hold good Thus LP model will help reduce cost of production of yarn and the efficiency can be ameliorated. In fact, case studies have shown that the estimated savings can be 5 to 10 percent of the cotton cost ■■■

S.T.D. locking facility

The Delhi Telephones have introduced a new system of locking the STD facility by dialling special code numbers in Electronic Exchanges.

The Minister added that under this system known as "Subscriber Controlled STD facility" STD facility can be activated de-activated by subscribers themselves by dialling a code chosen and known to them only ■■■

BOOK REVIEW

Living Dolls —Story of Indian Puppets by Jiwan Pani, published in August 1986 by Publication Division, Ministry of Information and Broadcasting, page 58 price Rs. 75/-.

Published in art paper with 45 pictures of puppets and pupeteers in both colour and block & white, the book is a good effort to revive an otherwise dying tradition art

Jiwan Pani, the author has portrayed his fascinating experience to the reader through this book. I agree with the author that puppets not only belong to another fascinating world but also seem mocking at human beings by exposing their weeknesses or follies

Puppetry which originated and grew up in an agricultural civilzation, is dying as industrialisation is changing values and taste of Indian Society. Again there is no one to provide sound patronage to this art. The survival depends upon the policy of Govt to patronise the traditional media and make puppeteers feel important as communicators.

The author has described the articulation of puppetry to human agency that fills three kinds of human wishes-sense of command, sublimation and superiorty over others

The author has covered various types of puppets available in different parts of India. Earliest appearance of puppets was in connection with religious ceremonies or as a medium of popularising religious legends Gradually they started coming out of the temple precincts and appeared before the audience as actors, but were not totally emancipated from their original legacies.

The books covers various kinds of puppets including glove, Rod, Shadow puppets etc

The book is really good in giving a graphic understanding of live, style, size, themes, variety of puppets, etc and deserves to be kept in shelves of all libraries. Let students of Indian culture at least go through the contents to understand the rich variety of this art and the need to keep it alive in today's world

The author has also devoted a chapter in contemporary puppet theatre introducing puppetery to new areas of education, population control, social evils, theraphy rehabilitation of handicapped children, propaganda, adverstising, cinema and television. Countries like USA, USSR, France, Sweden, Czechoslovakia, Germany, Hungry, Poland Canada etc. have recognised the potential of puppetry and are using it successfully. It has been given the status of human theatre

(S.K. Nayyar)

Kainth, G.S. and Bawa, R.S. (1985): *Economic Development and Structural Changes: An Empirical Investigation*, (New Delhi Inter-India Publication), pp 159 Price I.C. Rs. 150/- ($ 36)

The present book 'Economic Development and Structural Changes: An Empirical Investigation' by two outsanding economists is a welcome addition to the existing literature on the subject The book is an empirical investigation of the development experience of Punjab, the most prosperous state of India. The author have examined the linkages and structural transformation taking place in the state and identified the various factors influencing the growth of inter-sectoral income.

In the book consisting of six chapters, the authors have tried to identify the different variables which measure the growth of an economy The per capita income is found to be the best index of economic growth The direct relations are established between economic welfare and gross domestic product of a country In economies with low per capita income, primary sector is the major employer and contributor towards material income followed by secondary and tertiary sectors respectively It is accepted that with the economic development, the relative contribution of agricultural sector falls and that of industrial and service sectors increases Based on these assumptions, authors have tried to visualise the stage of growth in different sectors of Punjab economy

The second chapter entitled Data Base and Methodology discusses the nature of the study and also explains the various statistical methods applied to interpret the data connected with the empirical testing of the structural changes in Punjab

Chapter III is devoted to analyse the sectoral growth and various determinants of state deomestic product Three different sets of variables relating to primary, secondary and tertiary sectors are framed consisting of 12 variables each. All the 36 variables are considered to detect the factors affecting per capita income Six variables are finally selected to examine their collective influence on the per capita income The authors have concluded that the growth of net state domestic product can be increased by increasing the primary and secondary sector income.

Sectoral composition of state domestic product, inter-relationship among the different sectors and pattern of structural transformation is analysed in Chapter IV. The authors have concluded that the relative contribution of the primary sector falls rapidly in the initial stage of development resulting

to rapid increase in the relative contribution of secondary and tertiary sectors in total income. The inter-dependence between agricultural and industrial sector has also been studied. The authors have concluded that the agricultural development is a pre-requisite for industrial development especially in the initial stage of development.

Chapter V analyse the terms of trade and sectoral re-distribution of income. It is observed that during the study period of 1960-61, through 1978-79, the terms of trade were in favour of agriculture. The favourable terms of trade have benefitted only the large and medium farmers but not the small farmers who have no marketable surplus and are deficit in production, rather they lost as buyers when agricultural terms of trade improved. This has resulted in polarization of income distribution in the economy.

The authors have summarized their findings in Chapter VI. The study on the whole is a commendable effort on the part of the authors who, in order to derive strength for their arguments, have made extensive use of empirical statisitics. The policy implications derived in the book is of immense use and interest to planners, policy makers, the academicians, students and others interested in the rapid growth of the economy. The utility of the volume would have been enhanced if it had included some other indicators such as per capita consumption, rate of saving, investment, employment and other changes in the socio-economic set up for measuring the growth of an economy.

(D.K. Grover)

Bringing jobs to people—Employment Promotion at Regional and Local Levels Edited by Jean Mayer. Published by Sterling Publishers Private Limited. Pages 211; Price 150.

It is indeed paradoxical that on one hand, over the last few decades, the national economies of many countries experienced a substantial increase in gross national product but at the same time within these economics one saw a rising trend in employment and income disparities among groups, regions and areas. There is no easy solution to these problems. Measures, however can be taken to redress them and one such step which can go a long way is by providing more and more jobs to more and more people at their door steps. The volume under consideration brings together a number of articles on this subject and its various aspects that have appeared in International Labour Review in recent years.

The crux of the book is that a successful tackling of employment and income disparities would require an adequate integration of strategies of economic growth, space and employment. It is divided into four parts.

Part one, carries two articles by the author, concentrating on the theories and practices of regional employment development. Whatever be th theoretical likings and ideological biases one ca clearly see the limitations of market forces in tacklir regional imbalances. Mayer argues that growth has be founded on regional comparative advantage an gains thus arising should get spatially redistribute It would also mean that new activities should b located not only with respect to fixed endowmen but with an eye to remedying unacceptable soci imbalances. But all this would be possible only with "....radical adaptation both of the programming physical and social infrastructure projects on the on hand and of production projects on the other, and the role of administration and institutions, whic need to identify more closely with the public the are supposed to serve."

The second part has three articles which discu the urban and rural aspects of regional employmen The first of these by Paul Bairoch links up the thre issues of urbanisation, migration and inherent bias i the development process to throw up jobs specific t urban settings. He argues that there is scope for deliberate and properly designed physical an space-ordering policy such as, creating optimal size agglomerations which would provide among othe things, the urban function of job opportunitie thereby taking care of these linked issues and tackl the so called phenomenon of 'urban ove unemployment'. A.S Oberai reviews the performanc of land settlement programmes carried out in sever developing countries. He points out the limitations c such steps in tackling the problems of populatio distribution, unemployment and poverty. The autho finds that settlement programmes involving th opening up of untapped, potentially productive area of the country, as well as requiring the transfer c unemployed labourers towards these thin populated areas, can not be a substitute for polic options of land reforms together with intensiv cultivation of those rural regions where basi infrastructure exists. However, if the resettlemen has to succeed, it should not be simply a matter c 'logistics', rather the settlers have to be provided wit basic facilities and a noticable improvement i income. The third article in this part, by Jean Maye highlights the importance of attacking the problem of basic needs satisfaction at the smallest geographica unit of the country. He concentrates on the spatia distribution of essential goods and services (food, education, health and housing). He argues that th problem of distributing essential services should b taken care, at a very decentralised level. From the poin of view of costs, mobilising public support an contributing to local employment, it is essential tha maximum use of local resources be made to suppl these essential services.

Without manpower information one can not thin of formulating development strategies for regiona employment. The articles, in part three, by Lothe Richter and another by Denis Maillat give us means o data collection and analysis on this subject. Th

approaches differ in methodologies and relevance, the first one is appropriate for developing and the subsequent one for developed economy, but they emphasise the simultaneous adjustment of the local labour force to the requirements of industry and the actualisation of regional potential.

The finaal part presents some case studies at country level.

On a whole the book is well organised and provides an interesting reading, particularly so because it comes out at a time when we are aiming at rejuvenating our strategies of development to have a more effective and more rapid promotion of employment and the satisfaction of basic needs of the poorest sections and regions of our population. One would have liked to see some treatment of an important dimension of the employment problem, from the point of India and some other countries, namely the growth of educated unemployed.

Rajeev Malhotra

Dr. R.S. Narayan, Gangadharrao Deshpande (Publications Division), Builders of Modern India Series, pp. 214 Price 26 (1988)

Nations are built on the foundation of blood, tears and toil and nurtured by a spirit of self-sacrifice and honesty of character. Gangadharrao Deshpande, the "lion of Karnataka" was a titanic figure during the Belgaum session of the Indian National Congress in 1924, which was presided over by Mahatma Gandhi. Gangadharrao's ascent to the top level of leadership was beset with many difficulties and dangers. The police suspected him in Tailak's days as "a revolutionary". Soon he was hauled up for "sedition and sentenced to imprisonment"

Dr. R.R. Diwakar, the oldest living Gandhian (he is 98 now), said of him: "His oratorial powers were a blend of emotion and logic and he had a mastery over expression in Marathi as well as Kannada. He played a notable part both during Tilak's leadership and Gandhiji's stewardship of the Freedom Struggle".

Deshpande become an ardent disciple of Tilak after the latter's return from Mandalay in 1914. Tilak's role in the Congress was resented by moderates who feared that Tilak might surpass them. Gokhale openly opposed Tilak's reentry into the Congress while Annie Besant favoured it. Tilak was a statesman and his bigness of heart capitivated all elements within Congress. Even Gandhiji felt the dynamic impact of Tilak. Gangadharrao was under the impact of the great revolutionary whose clarion call, "Freedom is my birthright" electrified the entire nation from Ambala to Assam and Srinagar to Sringapatam. The nation was now on the move and nothing could stop. The events at Jalianwala Bagh in 1919 further galvanised the nation. And young Gangadharrao responded to the stirring events. Gangadharrao was a staunch follower of Tilak till the latter breathed his last on 1st August 1920. Gandhiji grieved the great national loss, saying "My strongest bulwark is gone. A giant among man has fallen". An era had ended in the life of the nation, but freedom's battle, once begun, is carried on from father to son, till the yoke is broken. Gandhiji assumed the leadership of the nation on 2nd August 1920 and the epic civil disobedience movement began to rock the nation in 1922. When Mahatma Gandhi visited Belgaum in November 1920, Deshpande organised meetings to galvanise Gandhiji's programme of non-violent non-cooperation. During this tour Gandhiji collected 22,000 rupees, a portion of that was given to Shaukat Ali for the Khilafat movement, the rest were given to Deshpande for national work. The Civil Disobedience Movement was, however, halted by Gandhiji when a mob infuriated at the police firing burnt 22 constables at Chauri Chaura in Gorakhpur district. The civil disobedience movement was thus suspended at a time when it was succeeding in compelling the British Government to yield to the demand of the nationalists. Subhash Chandra Bose, Nehru and a majority of the members of the Congress Working Committee were for continuing the struggle but Gandhiji stood firm like a rock amidst the raging sea. During this agitation Gangadharrao supported Gandhiji and he also was against the "Council entry programme", which joined the Gandhi Seva Sangh which was to provide a forum to "No-changers to engage themselves in the carrying out of the constructive programme of Gandhiji". Jamnalal Bajaj was the founder of this organistation, and Gangadharrao, Vallabhbhai Patel, Dr. Rajendra Prasad, C Rajagopalachari were the members of the Executive Committee. Gandhiji's political acumen supported by his "Inner Voice" proved to be right. The country needed rest to forge the will of steel. By 1930 the nation was ready to launch another Civil Disobedience Movement. Gangadharrao Deshpande was in the vanguard of the Salt Satyagraha in March, 1930. Gandhiji regarded him an ideal satyagrahi. Without grudging, he cheerfully carried out his duties and loved his leader with zeal and devotion.

During the post-1947 period, Deshpande worked for the peaceful liquidation of the Princely Order and helped Sardar Patel in integrating the States with the main national stream. In June 1951 Gangadharrao Deshpande was felicitated at an all-party function at Belgaum, where G.V. Mavlankar, the Speaker of Lok Sabha presided. Rich tributes were paid to the yeoman services extending over half a century. Deshpande spent the last year of his life in spiritual pursuits. He was initiated by the Swami of Inchgiri and Deshpande retired to a hermit-like life in a small village called "Nimbal". He lived like a hermit for nine years and passed away at the age of 89 in July 1960. The President of India Dr. Rajendra Prasad said of him: "Gangadharrao was among those few who in the early days of their youth took to national service, regardless of sacrifice and suffering".

In sketch a fascinatingly written biography of one of the great sons of India, author Dr. R.S. Narayan has

taken great pains His style is lucid and the flow of his language is faultless. it is essential for the present generation to know about what their fathers did for the emancipation of their motherland from foreign yoke Thus they will learn to prize their independence "External vigilance" as Jefferson remarked, "is the price of liberty"

(N.M. Khilnani)

Threats weapons, And Foreign Policy edited by Pat Mcgowan and Charles W. Kegley Jr. published by Sage Publications; Price $ 14 paperback and Hard back $ 28.00

In this well integrated collections noted political scientists, many of whom are professors of Political Science in various American universities and other research analysts have given their comments on the world military scenario and other related issues.

The book is in four parts Part I Threats and Foriegn Policy making an important reading for a student of foreign affairs. However, the book does not take into account the recent disarmament talks held in Geneva, where both the USA and USSR have agreed to cut down on arms in Europe and elsewhere.

Part II "weapons and Foreign policy", specially the article "Military production in Third World Countries"-a political study by Ilan Peleg is of special importance to us The escalation of arms race on the Indian sub-continent specially in the context of poverty and under-development is something to which attention has to be drawn to Part III "modelling arms race" The two articles in Part III of the book have attemtped an model of the Arms Race using econometric techniquest and multivariate regression analysis

In essence the book makes interesting reading, in the modern global situation, both for a layment as well as some research scholar in international relations.

(Kirti Saxena)

(Contd. from page 25)

technology to the ultimate user because of two important reasons-adoption of any new technology involves lot of risk which farmers are reluctant to undertake and most of the farmers have become subsidy minded and accept new package only when adequate incentives are offered.

Organisational constraints

Important constraints which come under this category are inadequate arrangements for production and distribution of quality seeds, timely supply of required inputs, credit etc., transfer of improved technology from research to farmers, lack of facilities like storage, grading and marketing of pulses coupled with wide fluctuations in prices of output are some of organisational and infrastructural defects that stand in the way of achieving a rapid increase in pulse production.

Faulty marketing system : It is yet another important constraint affecting the production of pulses. At present a large volume of pulses is sold by producers to commission agents and other middlemen who in turn sell it to dal millers The pulse produce market is dominated by a few rich middlemen They exploit both the producer and the consumer by paying unreasonably low prices to the farmers and by charging exhorbitantly high price to the consumers This situation calls for intervention of the producer controlled organisation in the form of integration of production, processing and marketing.

Strategies

Development of new varieties of pulses which are not only high yielding but also stable and resistant to pests and diseases attack should be the prime concern of agricultural scientists in order to increase the competitiveness and profitability of pulses with that of other field crops

In order to reduce the weather induced yield fluctuations and for faciliting the adoption of yield increasing improved varieties, it is imperative that the irrigation base of pulses should be enlarged To enlarge irrigated area under pulses, efforts should be made to introduce short duration pulse varieties without disturbing the major crops of the area

A very high priority has to be accorded in streamlining and strengthening the system of production and distribution of seeds, so as to ensure timely availability of improved seeds of different pulses in adequate quantitites suited to different agro-climatic situations Concerted efforts must be made for popularising the application of chemical fertilizers Pulses, being leguminous crops, require less nitrogen but adequate phosphorous for development of root system Adoption of effective plant protection measures would help in reducing the risk and uncertainty in the profitability of pulse production

Systematic and efficient extension education efforts should go a long way to reduce the gap between the yields at the national demonstration plots and the actual yields.

Effectiveness of a price support policy largely depends upon the efficiency of the market structure Lack of adequate economic infrastructure including regulated market and storage are major handicaps in the implementation of price policy for pulses. There is thus great need for reorienting the market structure of pulses, so as to promote vertical integration of production, marketing and processing with a view to improving marketing efficiency and supporting the production programmes. □ □ □

Computer aided management programme

CAM Programme aims at promoting fuller utilisation of resources and manpower in the organised sector through improvement in management techniques. The programme was launched in 1983. Government of India contributed Rs. 40 million and 1.25 million US dollar assistance was given by UNDP. Four national CAM centres have ben established with IIMs at Ahmedabad, Bangalore and Calcutta and with ASCI, Hyderabad. All four centres are operational and are equipped with computer hardware/software and trained personnel.

Forty-five specific development projects in seventeen diversified sectors of economy have been pursued. Sixteen software packages have already ben delivered to user organisations for beneficial use and remaining projects are in advanced stages of completion. Special expertise has been developed in areas like Petroleum process planning, District administration, Transportation, Production scheduling, Passenger train scheduling for Railways, Fertiliser movement and distribution, Essential commodities distribution, Management of dairy and farm products etc. The software packages developed are being used by a number of organisations in those areas.

The project has also helped in spreading computer culture by providing training to practising and future managers in CAM by well trained specialists. The project has created a spirit of usefulness of CAM packages. □ □ □

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Public sector undertakings achieve 10% higher production

Thirty three manufacturing Public Sector Undertakings under the Department of Public Enterprises of the Ministry of Inustry achieved 19 per cent higher production in July, 1989 than the production during the same month of previous year. The aggregated value of production during July 1989 was Rs. 517.11 crores as against Rs. 435.48 crores in July last year. This was 91 per cent of the target of Rs. 567.13 crores. In addition consultancy and contracting enterprises under the Department achieved a total turnover of Rs. 10.72 crores during the month, which was 104 per cent of the target of Rs. 10.32 crores.

Public Sector Undertakings which equalled/excceded their respective targetted production/turnover for the month of July, 1989 were Andrew Yale & Co. Ltd (105%), Bharat Heavy Plate & Vessels Ltd (127%), Bharat Wagon & Engg. Co. Ltd (101%), Jessop & Co. Ltd (100%), Tungabhadra Steel Products Ltd (112%), Hindustan Paper Corporation (113%), Hindustan Photo Films Mfg. Co. Ltd (123%), National Newsprint & Paper Mills Ltd (141%), Bridge & Roof Co. Ltd (109%), Engineering Projects India Ltd (102%) and National Industrial Development Corpn. Ltd 125%).

Cumulative production of manufacturing enterprise during April-July, 1989 was valued at Rs. 1859.98 crores which represented a growth of 19 per cent over the production of Rs. 1562.12 crores achieved during the corresponding period of 1988-89. Production of Rs. 1859.98 crores achieved up to July, 1989 was 94 per cent of the target of Rs. 1974.70 crores. In addition to the above, the cumulative turnover of consultancy and contracting enterprises during 1989 upto July, 1989 was Rs. 43.88 crores which was 107 per cent of the target of Rs. 40.99 crores.

Public Sector Undertakings which equalled/exceeded their respective cumulative targetted production/turnover for the period (April '89-July '89) were Bharat Heavy Plate & Vessels Ltd (101%), Bharat Wagon & Engg. Co. Ltd (105%), National Instruments Ltd (100%), Tungabhadra Steel Products Ltd (107%), Bharat Ophthalmic Glass Ltd (113%), Cement Corporation of India Ltd (102%), Hindustan Photo Fimls Mfg. Co. Ltd (115%), National Newsprint & Paper Mills Ltd (119%), Rehabilitation Industries Corpn.Ltd.(100%), Tyre Corporation of India Ltd (102%), Engineering Projects India Ltd. (121%) and National Industrial Development Corporation Ltd (101%). □□□

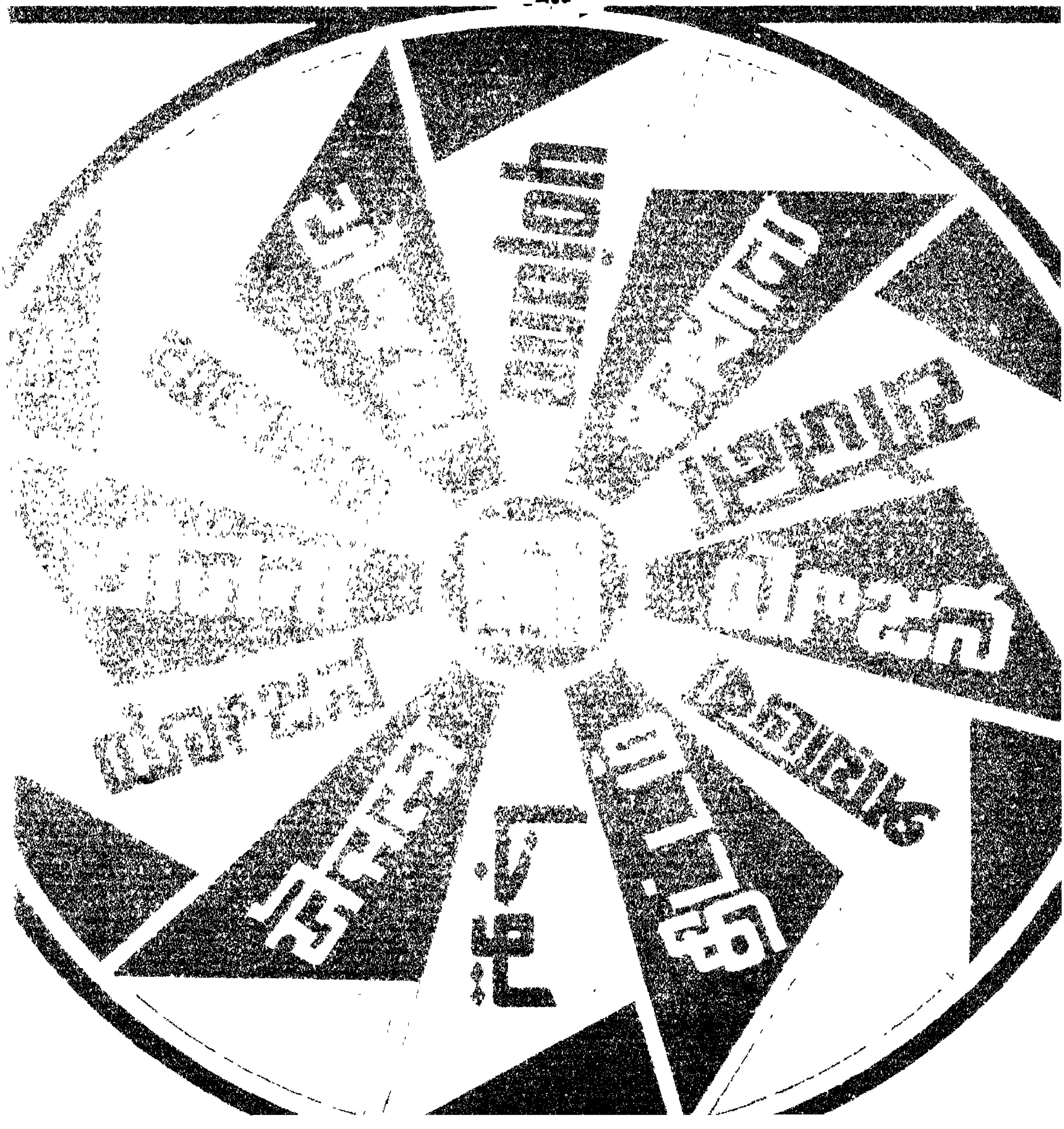
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Yojana

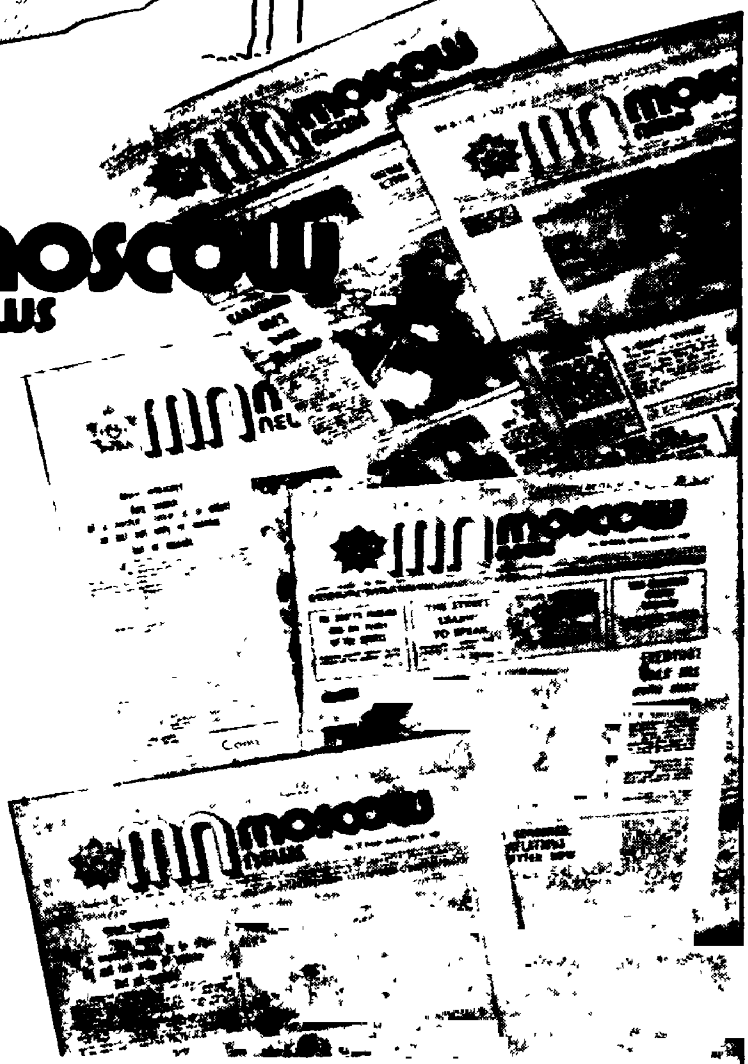
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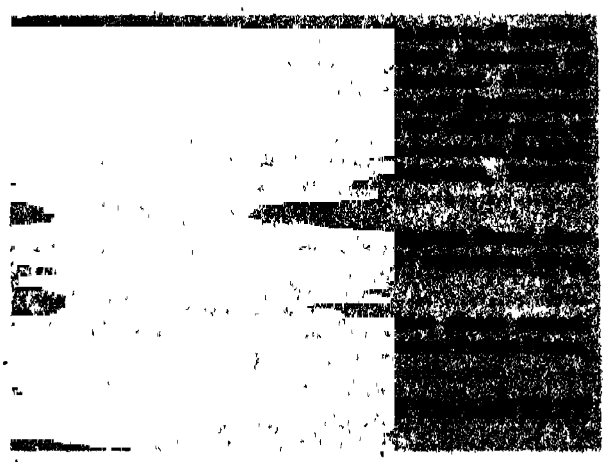
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Shaping urban local government

Dr. H.D. Kopardekar

Outlining the origin and growth of local self-government in India, the author says that the work of urban-government is developmental. In view of this, the old structure of local self-government definitely needs to be reviewed and adapted to the modern situation. The aim of bringing the local self-government closer to the people will have a wide appeal. In this context, the salient features of the proposed Nagarpalika bill will give a proper shape to the local self-government in the country, says the author.

LOCAL GOVERNMENT IS THE tier of Government Administration which is closest to the people as compared to the other tiers viz. National, State and Regional/District level tiers A complete account of the local bodies of ancient India, their organisations, structure and functions, is given in some ancient treatises. Various terms such as Sabha, Mahasabha, Samvatsaragramakarya Committee, Mulaparishad, Nirvaha Sabha, Matha, Sthanika, Nagara, Ganapperumakkal, Alumganattar, Rahasyadhikarin, Adhikarin, Senapati, Madhyastha, Ajnapti, Pramana (deed), Vyavastha, Pariwar (communities), Gramdrohin and Kantaka, Madhyama, Gopradrabhumi (pasture) etc. indicate the working of the local government organisations at village, town and city levels.

The descriptions of the important towns and their administration in respect of Nalanda, Takshashila, Pataliputra, Rajagriha, Ujjain, and others are available in the ancient travelogues.

Thus in India, the local body seems to have originated on every possible principle of formation and shows a flourishing growth of the local democracies.

It is the growth of these numerous multiform, intermediate assemblies between the state and the individual, which effectively helped the evolution of the Indian political life from local to the central government, the rural to the national democracy.

Local bodies in the British period

The origin of the modern local self-government system owes much to Sir Josia Child who obtained a charter from James II to set up a Corporation at Madras in 1642. The British regime did away with the indigenous foundations and the ancient local taxation system and new patterns were created. The Local Government in the British Period has four distinct phases as decribed below—

First phase (1833-1882) : (D)

A highly centratised form of 'Government was brought in the wake of the imperial system of finance in the first phase. To relieve the financial difficulties created by such a system, the local self-government were established with a power to levy house-tax and a responsibility to provide civic amenities. The success was varied, and in 1850 a permissive levy system was introduced by an Act. A report of 1863 indicates the unhealthy conditions of towns. In 1870, Lord Mayo's resolution brought a change in the process of administrative devolution A scheme of decentralisation of administration was introduced

Second phase (1882-1919)

The second phase began with Lord Ripon's resolution of 18th May 1882, which laid the foundations of the system of local self—government as it exists today. The principles as laid down included provision for various matters such as at least two-thirds members of the municipalities to be non-officials, system of election, government control in respect to sanctioning powers, advice and ultimate suspension if nothing worked, non-officials as chairmen, local revenue resources, etc. Several taxes such as octroi, house tax, and professional tax were introduced and primary functions of construction, upkeep, and lighting of roads, public health, education, etc. were fixed. It was laid down that expert advice, help and supervision of government officers should be made available to the municipalities as servants and not as their masters.

Third phase (1919-1935)

This period is influenced by the recommendations of the Royal Commission on decentralisation (1907-1908) which led to the resolution of 1951 of the Government of India. The reforms made in 1919 made a clearcut demarcation of the taxation powers of the local bodies.

Fourth phase (1935-1947)

This phase begins with Government of India Act 1935 and the inauguaration of the provincial autonomy under that Act. The Act envisaged the reorganisation of India on a Federal basis with provinces and a Government of India. In th process, the local self-government became a purely provincial subject and a separate list of taxes which could be levied by and for local bodies only got abolished and was merged in the state list. Further dencentralisation was made by State legislatures in respect of local bodies. However, it was observed that though the functions were enlarged, the financial base got curtailed. The revenues had not much increased, to allow them perform the functions well and in an autonomous manner. Municipalities became more and more dependent on grants-in-aid and the control of provincial governments tightened.

The Government of India Act framed after Independence continued the same provisions and the same tendency

The Post-Independence era

As seen above the local government has evolved to a new pattern in the British period and it is to be noted that by and large continued in the same form after Independence also, with some consolidation and codification as well as erosion owing to the greater control and encroachment by the State governments Almost four decades after the independence, the local government continued to be neglected politically, financially and authoritywise

With the raised aspirations of people and rapid growth of large cities, various aspects of urban life have been under examination and detailed analysis. Demands for some major reforms are being made and compulsions of the situation are forcing the authorities to adopt certain measures. Provision of funds for Urban Development and creating a suitable organisational structure are now such important measures to which the Central and the State Governments have to pay greater atention.

Since urbanisation and urban growth are complex processes in terms of demography, social, economic and physical change, it is definitely impossible to deal with the issues through a structure essentially evolved in the colonial period. Today's work of urban government is mainly developmental. Managerial and technical abilities of a higher order are called for and still the human dimension cannot be left out since large number of citizens of various social background and in varying economic abilities are pressing for civic services. More participation of people in development and management and raising resources and energies for that purpose will contribute to the development of the society as whole.

"Competent leadership using all skills, research and formulation of policies and dynamism in implementation are very essential today. Complicated fiscal decisions with far reaching consequences may have to be taken at short notices. An intricate balance betwen specialisation and co-ordination is also required. Several agencies have to be geared for a common goal of better services to the people in terms of health, cleanliness and sanitation, water supply and sewerage, roads and public transport, supply of power and energy-electricity and gas, education, recreation, social integration and general development etc. Especially, the growth of slums and squatter colonies and the problem of poverty has also forced urban administration to enter into the area of housing and job generation and social welfare programmes for the urban poor in a big way.

It is in this context that a suitable organisational structure has to be developed and the structure so developed will have to be judged. The United Nations Document on Administrative Aspects of Urbanisation (United Nations, 1970, p. 11) has clearly pointed out that the search for organisational structure suitable for the particular needs of urban areas,, involves two important considerations: How are tasks and functions to be allocated among levels of government and at the same time a working climate be developed for co-operation on common problems; and how can operating agencies and units of government within the urban region be organised and co-ordianted to deal with region-wise aspects of urban problems ? These two problems, geographic, scope and co-ordination and intergovernmental relations are closely inter related.

The relations in the deliberative and the executive wings

The other aspect of structure which raises a complicated issue is the maintenance of the democratic process along with a harmonious relationship between the deliberative and the executive wings. The democratic process implies that elections to the local bodies must be held properly and without interruption. Not holding elections or superceding elected bodies negatives this. There have also been conflicts arising between the elected deliberatives and executive elements. In reality the question as to who is supreme should not arise because each wing has its own role to play and if the goal of common good of the citizens is clearly understood, there should be no conflicts.

The form of executive

Ferozshah Mehta who is regarded as father of city Government in the modern India, had opposed

(alongwith Telang) the idea of Mayor-in-Council in 1872 and had said that: "The Municipal Council is not to administer and govern for which it is radically unfit but has to fulfil its proper functions to watch and control the executive, to throw the light of publicity on all its acts, to compel a full exposition and justification of all of them; and if then men who compose the executive abuse their trust or fulfil it in a manner which conflicts with the deliberate sense of the people, to expel them from office"

Ferozshah Mehta on one occasion had also said that the elected people should lay down the policy and leave the matter of execution to one-single-efficient-honest and responsible administrator in the form of a Municipal Commissioner.

In today's situation with the Cabinet Ministries at the State and the Centre, the Mayors and other elected representatives at city level also expect similar power, with only a recommendatory role and day-to-day administration of a commissioner. This conflict can be and needs to be resolved.

Today with the democratic set up at State and Central level and an elected Prime. Minister, as chief of Central Government policy making and executive body and Chief Minister at State level with similar function, its is natural for city level leaders also to ask for a similar position This demand has to be examined in the light of the complex situation that is emerging in the field of governing the cities today as explained earlier. The working of the new form of Municipal Corporation in Calcutta and Howrah needs to be studied and appropriate lessons drawn for improvement in other states.

It is also necessary to examine whether the question of form of government is all that important? The form is merely a function of the object of government. As in Architecture, the form follows the function; it is so even in the field of urban governance. We have to imagine the wide spectrum of settlements from a small town to a huge megalopolis and it will be clear that different circumstances require different governmental forms. One particular form may suit a small town (almost an overgrown village), but will be hopelessly inadequate for a metropolis. The changes in the form of Urban Local Government that have been evolved in India from the days of Lord Ripon, to the present ones with a multitude of Councils, Corporations, Organisations, Authorities, Boards etc. at various places, especially in the large cities have created a complex situation today.

It has to be noted that with the long neglect of Municipal Government as explained earlier, a tendency of creating new bureaucratic authorities/agencies developed instead of taking up efforts for strengthening the Municipal Govt. This has in fact further weakened the local govt. as is clear from a large number of reports on them. In fact municipal structure and administration need much more effort in strengthening now, and a realisation seems to be there now. It is in this context that the proposed changes in the constitution are very important today.

Changing role of urban administration

Developing countries like India have to face a rapid urbanisation and modernisation process. The old structure definitely needs to be reviewed in this context and adapted to the modern situation. Main issues to be dealt with are, the rapid growth of cities with large components of migrants with different cultural backgrounds including language differences and composed mainly of the rural poor and the rise of the informal sector, the provision of civic services, shelter and job generation as also mobilisation of resources by proper pricing and taxing policies to involve the urban poor in the overall city development process and therefore the progress of the society as a whole.

The role is thus changing from a mere administrative organisation suitable to the colonial or more stable days to a more Development Oriented Management System in a dynamic situation and social change (as described by Alvin Toffler). Whole development management system therefore needs to be reviewed and a more unified pattern after redefining the jurisdictions, the systems and the power distribution and a co-ordinated approach for development are called for.

The Task Force appointed by the Planning Commission, Government of India in 1983, on Management of Urban Development had suggested the strengthening of local authorities at all levels to make for better urban management. There has been no discussion of urban management below the city level. For a local government to be strong in the long run it needs to be strong at the grass-roots. Further, the collection of user and other civic charges requires a decentralised form of organisation. Hence, the strengthening of local authorities should also include an expanded programme of intermediate forms of organisation geared to urban community development through a participative process of planning, execution, financing, monitoring and evaluation of projects and programmes. At present, in a participative sense, in the places where a local authority is suspended, the citizen really has no intermediary between himself and the State Government. While there may be some argument about the actual efficacy of panchayats, etc., there is at least an existing system of local participation in rural areas such that groups of 1,000 to 10,000 people, depending on the size of the village, have some say in the running of their local affairs. Hence in urban areas also, there must be intermediary organisations which elicit opinion and secure the participation of people in decision making as well as securing proper implementation. To that extent there might be a closer connection between tangible works and resource raising; people might be more willing to contribute towards the resource mobilisation schemes.

Emphasis has been placed on the fiscal strengthening of local bodies so that they are able to perform the tasks that are to be assigned to them. The key ingredient necessary for efficient resource mobilisation is that the public must be convinced that taxes, and user charges are indeed related to the benefits that are supposed to accrue to them. It has been found in a number of places that when the perception of the public is that payment of fees and taxes is indeed related to improvement in services, such payments are made readily. Indeed, even capital costs have often been financed in this manner. Poor neighbourhoods have often been found willing piped water supply, sanitation etc, when their payments are seen to be directly linked to the provision of these services.

The aims of bringing local government closer to the people and of adjusting more carefully to the needs of particular geographical areas within the local authority have a wide appeal. Essentially, the decentralisation or area approaches involve gearing the planning and management of policies to the needs of particular geographical areas within the local authority and may involve delegating administrative and/or political responsibility for at least a part of this work to the local level. It is important however to clarify the overlapping meanings of decentralisation, delegation and devolution at least in so far as they are used in the discussion on local government in practice.

Recent recommendations and new initiatives

Maintenance of democratic process, ensuring greater and more comprehensive participation of the people, especially the backward and less privileged, to ensure that the benefits of development do reach the people. These are the main problems in developing countries especially the rapidly urbanising India. During the last two years two commissions, the Sarkaria Commission and the National Commission on urbanisation have grappled with the solutions to these problems and made several suggestions to resolve the problems.

The salient features of the proposed amendment

The salient features of the proposed Nagarpalika Bill are as under :—

1. Giving the Municipal bodies a constitutional status which they have been so far lacking.
2. Better financing of the municipal bodies. A Municipal Finance Commission at the state level is to be appointed to review the financial position of Municipalities and make recommendations about the principles for determination of taxes, duties, tolls and fees which may be assigned to, or appropriated by, the Municipalities; as also for the distribution of net proceeds of taxes, duties, tolls and fees to be distributed between the state and the Municipalities; as also grants-in-aid to the municipalities from the consolidated fund of the state.
3. Another important provision is about holding elections every five years for all the municipal bodies and ward committees. If any municipal body is superceded then elections have to be held within six months.
4. The provision in respect of elections for five years, re-election in case of supersession within six months and reservation of seats for scheduled castes and tribes in their proportion with population as also 30% seats for women are suggested in the interest of social justice. The democratic decentralisation process was initiated in India long ago but somehow the process had suffered a setback, the new provisions will be very much helpful in taking the process much further.
5. Adoption of the concept of tiered structure for the larger Municipal Bodies. Ward Committees have been proposed for cities with a population of more than 100.000. The Ward Committees will have authority and the Municipal Bodies will have to make available funds for undertaking development activities at the local level. The Ward Councillors will be a link between the Municipal Body and the Ward Committees. The State Government will have to decide such Ward Committees will be constituted and ensure that they function efficiently. For the cities with more than 300,000 population having Municipal Corporation, a zonal Committee consisting of Chairman of Ward Committees is proposed and the Municipal Corporation will have to provide funds to this Zonal Committee which can undertake certain activities. The details are to be decided by the State Governments.

   Two and three tier structure for bigger Municipal Bodies and establishment of Nagar Panchayats for semi-urban areas are steps to bring in a much higher participation of the people in the processes of development and decision making about the development.
6. The provision for joint planning commitees for improving the linkages between the urban and the rural areas both for districts and the metropolitan areas consisting of several municipal bodies/corporations and village panchayats.

Some cautions

The objectives of giving power to the people are not only laudable and bureaucracy will have to accept it

(Contd. on page 9)

Nagarpalika scheme for urban development

Biswanath Ghosh

The purpose of the proposed 65th Constitution Amendment is to ensure that the poor people in urban areas under the Nagarpalikas get the opportunity to involve themselves in various urban development schemes. It is something unique that people from the lowest strata of our social structure will be able to exercise their rights and responsibilities through the proposed devolution of power to local bodies.

Restructuring needed

It is expected that involvement of more people in the development schemes of the Nagarpalikas will gradually eliminate the chances of corruption and will enable the urban local bodies to function more effectively. There is no denying that most of the Nagarpalikas in almost all the states have failed to provide even the minimum basic civil amenities to the people though they have been functioning for decades. The Nagarpalikas are in existence since pre-Independence days. But most of them are outmoded in concept and structure. All such institutions need restructuring.

The Government wants to place the Nagarpalikas on a strong economic and administrative footing. Moreover the influx of poverty stricken people from village to urban areas could be minisised to a great extent. At present urban local bodies in almost all the major townships are facing considerable difficulties due to pressure of population. Most of the existing Nagarpalikas do not have adequate funds which could embolden them to draw up ambitious schemes. There is hardly any co-operation between one civic body and another. In most cases there is no election for years together.

Democracy at the lowest level

Introducing the Nagarpalika Bill in the Parliament the Prime Minister Shri Rajiv Gandhi said that the civil bodies will be given adequate powers. Through this Bill, democracy will percolate to the lowest level of the society Moreover the damaging influence of the power brokers will be diluted. Mahatma Gandhi's and Jawaharlal Nehru's dream of 'Power to the People' will be fulfilled, The Parliament and the State Legislatures will be strengthened if the roots of democracy are allowed to spread to village and urban areas. So long the local self governments had no separate constitutional entity and as such the Panchayats and the civil bodies were hardly effective. Now democracy will start spreading its roots from the lowest level of our social structure.

Shri Gandhi emphatically declared that the powers and the rights of the State Governments have not been taken away. On the other hand adequate care has been taken to maintain the Centre-State relation in accordance with the provisions of the Constitution The Bill was introduced after due consultation with the concerned authorities and also with common people from all the states. Infact, the centre has responded to the joint resolution adopted by the central council of Mayors for conferment of constitutional status to urban civic bodies. They feel that urban problems could not be solved wthout

giving the local Governments their "rightful place in the country's constitutional framework".

New proposals

There are two new proposals. The first is to form area committees with chairpersons of ward committees in cities with population exceeding 300,000. Secondly, in cities where population varies between 100,000 and 300,000 ward committees should be formed by direct elections. The civic authorities will hand over or decentralise powers and responsibilities to the ward committees. The State Legislatures will be responsible for determining the areas and population under each ward committee. It is proposed in the Nagarpalika Bill that the municipalities will have two-tier and the corporations will have three-tier structures.

In such a system, the councillors will enjoy more freedom of work. There will be provisions for representation of Scheduled Castes and Scheduled Tribes in such civic bodies as in Panchayati Raj Institutions. Similarly, there is a proposal for reservation for women representatives. It is also proposed to form joint committees for maintaining co-ordination between the Nagarpalikas and the Panchayats.

Shri Gandhi is of the view that the centre has no desire to change the basic structure of the constitution while devolving powers to the urban and rural local bodies. Shri Gandhi remarked "We do not want to encroach on what the constitution mentions as the 'states' powers' or to 'bypass the states' in the development process", These measures will infact help in strengthening democracy at the grass roots level for speedy development and progress of the nation. □□□

(Courtesy: PIB)

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(Contd. from page 7)

as a need of the hour, some cautions are however necessary. It is necessary to examine some possible problem areas or conflict situations. Such points of conflict or ambiguous areas will have to be examined in greater details.

(1) The NCU recommendations are to make the executive more powerful in the day to day functioning. This is also the basis of reforms introduced by the Thatcher Govt. in UK. In India, experience so far of the working of democracy at grass roots level has been that many of the elected persons consider the municipal bodies as employment providers and not as development facilitators. It is necessary to bring some clarity in the roles and functions of the elected and the appointed. Some special awareness and training programmes are necessary for all levels both elected and appointed.

(2) The proposals in the amendment bill contain provisions for Ward Committees and Councils. Elections are to be made separately. The possible areas of conflict in these two or in case of larger bodies the three tiers will need a detailed thought. Some detailing of levels of activities and development will be necessary (e.g. 6 types of roads are indicated in the Act for Calcutta Mun. Corporation).

(3) Another worry is about the level and quality of people in the lower tiers especially the ward committees. It is the experience in India that with smaller constituencies the quality of people who contest and get elected is not of the required level. Perhaps no officer and staff members will be able to sort out appropriate relationships and develop required goodwill and mutual understanding and working rapport with certain type of persons who may get elected. This may bring the whole system to a halt or become counter productive.

(4) Another aspect is that even in today's situation and in the proposals some decisions or directives or interventions of the state are called for. e.g. decisions about which wards should be in the reserved category? It has been the experience that these decisions don't come in time and whole matter remains pending. Some guidelines in this and other matters are needed.

(5) A strong cadre of Urban Managers at central (for bigger cities) and at level for other cities and towns as also for all other categories has been the need of the hour. Some provisions need to be incorporated or guidelines need to be given to the states.

(6) It is also now necessary to take steps to strengthen the whole sector of Urban Management. Creating awareness in all the decision-makers and controlling authorities to exercise their supervisory controls in the interest of better performance of the Municipal Bodies simultaneously emphasis has to be laid on training at all levels.

(7) In respect of the funds to be provided by the central government also some principles will have to be evolved and incorporated.

(8) Main thing is also enthusiasm and willingness to act on the part of the state govts. They need to strengthen their Directorates of Mun. Administration and take the proposals from the point of view of streamlining their development administration and fund allocation for desired developmental approach. Some guidelines for this purpose are also necessary.

Conclusion

It is hoped that all concerned will consider these points and suggest suitable steps to give a proper shape and soul to the Local Self Government in India for the needs of today and tomorrow. ■■■

Institutional support in Urban Management

Bapoo Sohoni

Training of officials in local governments is as necessary as training in other fields. The All India Institute of Local Self Government is one institution which provides such training to officers. In this article the author describes the origin and growth of the institute coupled with its role in the training of officials through its various training programmes.

THE GOVERNMENT OF INDIA AND ALL the State Governments are of late attaching a lot more improtance to training of officials for improving efficiency and effectiveness of its administration. Keeping this is view both the Centre and the State Governments have set up training institutions to take care of training of government officers. Many of the state governments set up Regional or District Training Centres to cater to the training needs of lower functionaries.

The training of officials in Local Governments should also receive sufficient attention so as to strengthen the local government in the country. Some of the states like West Bengal, Rajasthan and Kerala have set up Centres for training of municipal officials. But their efforts are confined to the states concerned and are still not on a scale covering all levels of staff considering the requirments of rapid urban growth and the needed management support. Further, a statewise approach also comes in the way of exchange of ideas and sharing of experience. The activities of AIILSG (All India Institute of Local Self-Government) on all-India basis and international contacts and backing have come in handy for giving a much wider base for training activities in the field of urban management for officials and staff from India and other countries as also other needed support to the Municipal bodies. Realising the gaps and needs for training, the All India Institute of Local Self-Government, Bombay, has embarked upon a programme of training for officials at various levels and non-officials elected to the local bodies through its main Research & Training complex at Bombay and several Regional Centres. The programmes aim at increasing the professional knowledge and sharpening the skills of local functionaries so as to improve their performance on the job. By improving knowledge, skills and attitudes of local officials, a development approach to provision of civic services is expected to be adopted by them. With this view, the Institute organises a large number of training programmes all over India.

The Institute has already conducted a series of Induction and Refresher courses for Chief Officers/ Executives and other officials and staff for building up cadres of urban managers in various states such as Maharashtra, Gujarat, Madhya Pradesh, Karnataka, Punjab, Assam etc. More such requests are being received from State Governments, other bodies besides those for organisation of courses listed in appendix for which many municipal bodies are approaching the Institute.

The origin and growth

The idea of forming a Local Self Government Institute dates back to a Conference of Local Bodies held at Pune in 1917 when late Mr. Alfred Master, I.C.S., the then Secretary to Government, General Administration Department of the then Government of Bombay Province. took the initiative in setting up an Institute to launch a *movement for the education of the people both in Self Government and efficiency of adminsitration* The proposal was formally approved by a Government Resolution, General Department No. 5690 dated September 27, 1926 and the Institute was formally inaugurated, by His Excellency Sir Leslie Wilson, the then Governor of Bombay, on 15th July 1927.

Later, at the initiative of late Mr. C.D. Barfiwala, Director General of the Institute, late Mr. G.V. Mavlankar, the then Speaker of Parliament and Rajkumari Amrit Kaur, Minister of Health, Union Government, the Constitution of another body known as the All India Institute of Local Self-Government was finalised and it started functioning from April 2, 1951.

The Institute thus designed to promote and to support activities in the area of Research and

Training in municipal administration has since its inception in 1926 started activities in various states through its permanent regional offices and peripathetic centres. Its activities are national in scope. During the span of over six decades, the Institute has grown both in terms of its work spheres, services and branches to cover many states of the country. Today the Institute has branches and activities in twenty one cities in the country.

Objectives

The main emphasis of the Institute's work is to see that the local bodies can contribute more effectively to the development process and provide the citizens with better living conditions by meeting their aspirations in terms of civic amenities, infrastructure and better environmental conditions thus contributing to social and economic development of the society as a whole by better management of the human settlements. While this is the long term objective, the more immediate ones are —

(1) To advance the knowledge of the principles and practices of Local Government by conducting research work and by organising training courses and programmes at various centres in India for officials and elected representatives of the local bodies.

(2) To strengthen and improve local government institutions by improving their performance through education, orientation training and bring them together for common endeavour by organising specialised conferences, conventions and seminars

(3) To make available a platform for members of local bodies and officials for exchange of views ideas related to urban development and administration.

(4) To represent the views of local authorities supported by research work to the concerned higher authorities from time to time

(5) To publish bibliographies, articles, books and other literature on matters of interest to local bodies.

(6) To publish journals, bulletins, and other literature on different aspects of Local Government and on the working of local bodies in different states

(7) To undertake research studies in public adminstration, problems of local bodies and also in related topics of urban and environmental factors and arrange for their publication etc.

(8) To establish and maintain an information-cum-documentation service for local bodies.

(9) To undertake assignments in various areas of urban development and problems of local bodies with a view to improve and develop organisational, managerial and operational efficiency.

The Institute has been assisting the concerned government departments and agencies both at Central and State level and collaborating with universities, organisations, research institutes and other training institutions. The work of the Institute covers several aspects involving a multi-disciplinary team work in the field of urban and regional development and management.

International affiliations/activities

The Institute is also a member of the International Union of Local Authorities (*IULA*), Netherlands, and has contributed to the international thought on Local Government The Director General is also a member of the World Executive Committee of IULA and also of the Asia-Pacific Region. The Institute has in the course of its work developed contacts with UNCHS, UNDP, World Bank, Eastern Regional Organisation for Public Administration, Manila and other National and International Organisations spread all over the world Participation in international events in the field such as World Congress, Seminars and Conferences to further the objects of the Institute has also brought the Institute into worldwide contact for a better understanding and work in mutual collaboration for better management of local government.. The Institute has also organised courses for *international participants*

The Institute has organised several Training Courses and Workshops in collaboration with UNCHS, UNDP, EDI, such as Urban Management and Finance, Computer Applications for Water Supply Project Management The Institute has also organised an International Seminer on Role of Local Government in Development at the time of the Diamond Jubilee Celebrations of the Institute in 1986 after a National Conference of Urban Local Government on similar topic The papers and subsequent work has promoted a good debate; drawn considerable attention to Local Government, its status, resources and problems etc The Institute is also developing contacts for 'Joint Research, Training and Study Projects at International level

Research activities

The constantly growing activities of the Institute made it necessary to develop its own infrastructure. In 1962 the Institute established its own centre for research concerning urban and environmental aspects. In 1968 the then Ministry of Works and Housing (now Urban Development), Government of India, recorgnised the centre. The centre covers the Western Region of India comprising of States of Rajasthan, Gujarat, Maharashtra and Goa. The Centre is actively engaged in carrying out research on issues concerning urban environoment and urban management The Centre aims at contributing to the understanding and solution for the problems in the field of urban development and municipal adminfstration It also helps in improving the capabilities of local officials by upgrading their knowledge and skills required for implementation of their programmes The activities of the Regional Centre

are chalked out and monitored by the Advisory Committee constituted by the Ministry of Urban Development, Government of India. The Secretary to Government of Maharashtra, Urban Development Department is the Chairman of the Advisory Committee and Joint Secretary to Government of India, Ministry of Urban Development, Secretaries to Governments to Rajasthan, Gujarat and Goa, Director-General of the All India Institute of Local Self Government and a representative of University of Bombay are its members.

Several research reports have been brought out by the centre and a number of specialised courses, seminars and workshops have been organised through this centre on various aspects of urban and environmental development and management.

The municipal supply service

The municipal supply service of the Institute serves the local government bodies and other agencies with a wide range of products needed by the local governments and arranges their procurement. The Institute has taken special interest in developing suitable equipments and material in respect of sanitation, recreation etc. Mobile toilet van is one such example. Designs of several types of equipments for better transport equipments and vehicles, also children play equipments are being introduced through groups of entrepreneurs.

Printing and publishing

A modern offset printing machine and Desk Top Publishing system (computerised system with laser printer for preparing texts for platemaking) in the Printing Press of the Institute not only prints the journal, newsletter and books published by the Institute but also offers its services to local government bodies.

MUNICOMP

The Institute has also taken a lead in making the urban administrators aware of the recent developments in computer science and information systems. The Institute in collaboration with computer specialists and entrepreneurs offers solutions to the problems of data management in municipal bodies and is offering the MUNICOMP as a comprehensive municipal data management package. These are sepcially designed and developed for municipal bodies, development authorities for efficient data management and decision making on a sound footing. The computer centres of the Institute are equipped with a range of computers from IBM/PC/XT/AT to Xenix system, Computer Aided Design (CAD) equipment etc.

Over the years the Institute has developed various infrastructure for conducting training programmes, research and other activities. (List in appendix I)

APPENDIX-1

Training programmes offered

1. Organisational Development

Special courses for functional groups in municipal bodies with on-the table presentation and on-the-spot field visits for practical level observations and experience.

II. Financial Aspects:

(1) Municipal Auditing and Accounting
(2) Municipal Budgeting and Financial Management
(3) Tax Administration and Budgeting
(4) Property Tax Administration
(5) Municipal Resource Mobilisation
(6) Zero Base Budgeting
(7) Performance Budgeting

III Administration/Management

(1) Estate Management (selected aspects)
(2) Municipal Administration
(3) Laws in Municipal Administration
(4) Orientation Course in Office Management
(5) Municipal Personnel Management
(6) Effective Office Supervision for Superintendents, Assistants, etc.
(7) Working in Groups and Increasing effectiveness of Groups for Senior Officers.
(8) Financial Management
(9) Performance Appraisal of Lower Staff
(10) Methods of Control and General Office Management
(11) *Management of Information System*
(12) Appreciation course on use of Computers and other mechanical aids in Municipal Administration and Development Authorities

IV Urban Development and Engineering Services

(1) Management in Urban Development
(2) Physical Planning
(3) Housing, Planning Standard and Building Regulations
(4) Slum Improvement and Low Cost Housing
(5) Development plans and its implementation
(6) Engineering Methods, Cost Reduction in Projects, Monitoring and Control.
(7) Solid Waste Management
(8) Management and Economics of Water Supply and Sewerage
(9) Urban Public Health Programme and Environment
(10) Transport Planning and Traffic Control
(11) Leak Detection and Waste Prevention in Water Distribution System
(12) Public relations and communications skills for executives
(13) Improving image of municipal administration
(14) Administrative leadership in municipal bodies

(Contd. on page 15)

Funds to local bodies: Issues and options

Dr. M.P. Mathur

The complexity of urban problems and the limitations of internal resources have proved that taxes alone cannot provide sufficient finances to municipal bodies to enable them to perform their assigned functions adequately. It is in this context that the various committees have recomended supplementary support to municipal bodies by way of grants-in-aid and tax sharing of certain state levied duties. Though the structure and pattern of grants-in-aid vary from state to state, the author is of the firm opinion that grants-in-aid must supplement tax collection if the local bodies are to maintain their financial health and contribute their mite to the overall national regional development.

TAKING INTO ACCOUNT THE INCREASING magnitude and complexity of urban problems on the one hand and limitations of internal resources at the local level on the other, the various committees set-up at different levels of governments had come to the conclusion that the state should support the functions of municipal bodies by way of grants-in-aid and tax sharing of certain state levied duties The Taxation Enquiry Commission (1953-54) had observed that taxes, even if they are fully and efficiently exploited, can not alone provide adequate finances to municipal bodies to enable them to perform their assigned functions adequately. The Commission had suggested that the taxes should be supplemented by a well designed system of general purpose grants-in-aid. In addition, the Commission had also recommended specific grants for particular items and services.

Grants-in-aid to local bodies

The Report of Augmentation of Financial Resources of Urban Local Bodies (Zakaria Committee) observed that "the principle that grants-in-aid should form one of the important sources of revenue of local authorities, has been accepted all over the world. It has been estimated that in UK grants constituted about 42 percent of the total local revenue which is almost three fold higher than the Indian system. According to the study conducted by the NIUA for the Ninth Finance Commission, on an average, the grants component of municipal income form roughly 16-18 per cent to total municipal revenue income. This proportionate share, however, varied significantly from one state to another and even within the same State, from one urban centre to another.

The Zakaria Committee adopted the normative approach to grants-in-aid and recommended that the municipal bodies be divided into six categories based on their population size for general purpose grants. The rates they suggested varied from Rs. 0.25 per capita in metropolitan centres and major industrial towns to Rs 1.50 per head in respect of smaller municipalities at the price level prevailing in 1960-61.

With regard to specific grants for various developmental works specially water supply and drainage, the committee had suggested that this may be decided by the respective state governments after taking into account all the relevant factors with a view to make the project a practical proposition.

In later years, many of the state governments such as Orissa, West Bengal, Gujarat and so on, appointed committes and commissions to look into the financial health of municipal bodies and also their grants-in-aid structure These committees have suggested a number of measures to modify the grants-in-aid code in their respective states:

- There should be a periodic review say after 5 years of the grants-in-aid structure, and pattern by the expert committee to take stock of inflation, population growth and other indicators;
- Grants-in-aid may be linked to the resource mobilisation efforts of the municipal body;

Due weightage should be given to the special problems of each municipal body; and

Adequate grants may be given to bridge the gap between the service standards among the various municipal bodies by way of two fold funding: capital funds for carrying out such projects and recurring nature grants for operational and maintenance purposes.

At the Union Government level, the issue of grants-in-aid was first considered by the Sixth Finance Commission. This Commission recommended a grant-in-aid for the upgradation of standards in non-development sectors and services. The Seventh and Eighth Finance Commissions continued to make recommendations for Grants-in-aid for the upgradation of standards of administration and services The Eighth Finance Commission selected, in addition, two other sectors education and health, for purposes of upgradation grant "in view of their crucial importance." However, it did not recommend any grant-in-aid for raising the service levels of urban local bodies on the ground that "that problem is too large to be dealt with through upgradation provision."

The Ninth Finance Commission in its first report for 1989-90 has made a significant departure from the preceding Commissions in that it has recommended a one-time grant of Rs 50 crores each to the Governments of Maharashtra and West Bengal for environmental improvement of slums and provision of basic amentities in the cities of Bombay and Calcutta. It has pointed out, in addition, that "equalisation of certain social and community services is one of the objectives of the Finance Commission", and it has accordingly provided for significantly higher levels of grant-in-aid for eduction and health services

Regarding the role of grants-in-aid in the development process of municipal bodies, divergent views have been expressed by different committees and commissions-both in favour of strengthening their financial position, and aganist because this may curtail the autonomous character of municipal governments and in crease the functional dependency on states However, it may be reiterated that the municipal bodies are the creatures of states, and the states. accordingly lay down their functions and resource raising powers in the municipal Acts. Thus the argument in favour of grants-in-aid seem to be more appropriate. In fact the State governments have a dual responsibility. Firstly to make available adequate finance for the functions assigned, and secondly, to ensure that the assigned functions are performed efficiently. Without adequate grants-in-aid, neither of the functions– obligatory nor discretionary–can be discharged efficiently.

In the foregoing discussion it is clear that grants-in-aid is a fiscal instrument for the devolution of funds from the state to urabn local bodies to perform their functions effectively. Grants-in-aid may be broadly classified into three categories.

(i) Recurring or general purpose grant meant for budgetary support to local revenues,

(ii) grants in lieu of resources taken over from the municipal bodies such as grants in lieu of octroi; and

(iii) specific grants for development purpose or maintenance of certain services.

Grants structure and pattern

"The structure of grants-in-aid varies from state to state; the amount of grant, is however determined largely on the following basis·

- Unit basis-per capita population or works;
- Resource deficiency basis—gap between needs and resources;
- Service standardisation basis—gap between demand and supply or standard norms and actual supply;
- Priority areas in the context of overall regional and national development; and
- Formula basis-taking into account all the developmental indicators such as population, income, expenditure, priority attached to service, and so on.

Madhya Pradesh, for example has adopted a combined method both on population and service criteria. Gujarat has adopted the per capita system of grants-in-aid based on population size of the municipal bodies while in Uttar Pradesh and some other states, the grants structure and pattern is ad hoc Specific functions such as roads, education, and so on are covered, in addition to a share in salaries of municipal staff In fact, the grants-in-aid system in most states is very confusing and largely on an ad hoc basis. This has resulted in budgetary-suspense, lack of capital formation and neglect of maintenance on essential civic services. It is significant that in West Bengal an attempt has been made to rationalise the general purpose grants and the evolutions for meeting the need of development finance by almost replecating the Central Finance Commission (CFC) With a view to rationalise the chaotic system of giving subventions as a gap filling device, the West Bengal Muncipal Finance Commission (WBMFC), following the practices of the CFC, projected the growth of revenues and expenditure of various local bodies to know the extent of gap. Having known the gap, they first tried to fill it not by subventions but by suggesting a scheme of tax sharing. The revenue grant is thus to be given to only such local bodies which are still in deficit On the other hand, the surplus local bodies are to transfer their surpluses to the capital account for financing of the various development projects.

Modification of the Structure

Considering the defective grants-in-aid code in most states, The National Commission on Urbanisation has mentioned that if the former Finance Commissions had laid down principles relating to grants to the states out of the Consolidated Fund of India under article 280(b), and stated what portion of such grants should be passed on to the local bodies and on what

All India Table : 1

Per Capita Grants-in-Aid Norms as Suggested by Zakaria Committee

(Rs.)

Category	Population size	At 1960-61 prices	At 1986-87 prices (updated figures)
A Special	Above 20 lakhs and industrial cities above 10 lakhs	0.25	1.53
A	5-20 lakhs	0.25	1.53
B	1-5 lakhs	0.50	3.06
C	50,000-1 lakhs	0.75	4.59
D	20,000-50,000	1.00	6.13
E	Below 20,000	1.50	9.19

Source: NIUA, Upgrading Municipal Services : Norms and Financial Implications, 1989

All India Table-2

Highest and Lowest Proportions of Grants-in-Aid for various Purposes-State Dominance, 1986-87

Type of grants	% Share in total grants	States
General purpose	75-100	Himachal Pradesh, Medhalaya, Tripura,
	1-20	Bihar, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Tamil Nadu.
Specific purpose	75-100	Bihar, Madhya Pradesh, & Goa
	1-20	Karnataka, Kerala, Meghalaya Tamil Nadu & Tripura
In lieu of taxes	75-100	Karnataka, Manipur, Tamil Nadu
	1-20	Haryana, Madhya Pradesh, Orissa & Rajasthan

Source: NIUA, Upgrading Municipal Services Norms and Financial Implications, 1989

principles, perhaps this problem could have been overcome

Thus for a better utilisation of grants-in-aid in the context of overall national regional development in general and the financial health of municipal bodies in particular, the state governments should modify the grants-in-aid structure and its application at individual municipal level by taking into account their functional roles, financial position and other local characteristics Besides these factors, there should be a regular flow of grant money from state to local level to avoid any level of confusion for effective functioning of municipal bodies

With regard to plan grants for financing capital projects in urban areas, a system of five year fiscal plans may be introduced at municipal level which can be brought within the framework of State Plans. This will not only facilitate a regular flow of funds from the state plan outlay but also help the local bodies in managing their non-plan revenue spendings in tune with the requirements. The proposed Consitution (65th) Amendement would provide greater opportunities to municipal bodies in managing their finances effectively by securing authorisation from state legislatures for grants-in-aid to them from the consolidated fund of the state as also assignment to, or appropriation by, the municipal bodies of the revenues of designated taxes, duties, tolls and fees. It also provides for a Finance Commission to review the finances of municipal government and recommend principles on the basis of which state legislatures may determine the taxes to be appropriated by, or assigned to, the municipal bodies, as also grants-in-aid to the municipal bodies from the Consolidated fund of the States. ■■■

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(Contd. from page 12)

(15) Planning and management of urban services
(16) Supervisory development
(17) Chlorination and use of chlorinators

V. Other Courses

(1) Induction Course for Chief Officers
(2) Development Skill in Decision-Making
(3) Refresher Course in Municipal Administration
(4) Urban Community Development, and Municipal Administration
(5) Employment Generation Projects for Local Bodies
(6) Appreciation of Local Authority Administration for elected representation
(7) Project Formulation and Monitoring for Urban Development Sector.
(8) Executive Development Course for Chief Officers of Municipalities and middle level officers of Municipal Corporations and Councils.
(9) Communication Skills and Public Relations
(10) Office Work Simplification. ■■■

Housing and basic services: role of urban local Governments

Amitabh Kundu

Provision of housing and basic services to the growing population in towns and cities in India poses a great problem. In short, the rate of growth of urbanisation was faster than the growth rate of the economy. in view of the inadequate resources available for urban development, in five year plans, various committees have proposed strengthening of local bodies to solve the problem of housing & basic services needed for the community. The present policy perspective is in favour of affordability in housing. A professional and managerial solution is thus being proposed for tackling urban problem in the context of housing, devolution of funds from States to local bodies, community participation, decentralised decision-making, two-tier organisational system would definitely help in achieving parity between affordability of the community and quality of services.

THE TASK FORCES ON URBAN DEVELOPMENT set up by the Planning Commission (1983) had worked out an investment figure of Rs 8600 crores at 1980-81 prices for the seventh plan period to provide the basic minimum services to the incremental urban population and clear a part of the backlog of uncovered poslation. NCU had proposed a doubling of the proportion of plan expenditure for urban development and recommended a figure between Rs. 3000 to Rs. 3500 crores per year (the base year for the calculated amount is not known).

In view of the inadequacy of resources available for the urban development in the five year plans, Task Forces on Urban Development, NCU and also several high level committees have proposed strengthening of local bodies and augmenting their internal resources so that they themselves can meet a substantial portion of the required current and capital expenditures The need for decentralisation is being emphasised by planners, policy makers and administrators in the country Also, several legislative and constitutional amendments are being proposed to allow the local bodies to function more effectively and generate more resources by augmenting their tax base or tapping sources other than taxation However, the weak economic base of the cities and towns, particularly of the small and medium towns, difficulties of reforming the legal structure within a short time and lack of political will are likely to come in the way of generating resources at the local level

Emerging policy perspective

An analysis of the existing organisational structure responsible for the provision of housing and basic services in urban areas, functioning of the financial institutions supporting it, evaluation of the programmes and schemes launched at the central and state levels and an overview of the plan and policy documents appearing in recent years suggest the emergence of the following policy perspective The present thinking is in favour of affordability in housing as opposed to the approach based on needs and norms

The system of controls imposed on the private sector through elaborate administrative and legislative measures has interfered with the effective functioning of the market and restricted the suply of land and basic services This has also encouraged

inefficiency and corruption. Government should withdraw from the production scene in these sectors and act only as facilitator, ensuring smooth functioning of the market or at most bring about only limited structural changes. The benefits of undertaking production in the public sector and guiding private sector activities have failed to reach the economically weaker sections of our society. Generally the organised segments of the urban population have cornered the subsidies pumped into the public delivery system. Urban poor have come to depend more and more on the market wherein prices have shot up as a result of unimaginative government policies restricting production and supply. The other viewpoint gaining currency in recent years is that subsidies besides being drain on national resources tend to kill initiative and entrepreneurship and therefore must not be given to the urban poor.

As opposed to the centralised system of production and distribution created through governmental policies and programmes, the present thinking is in favour of decentralisation. Passionate pleas are being made to pass decision making to people, communities, local bodies etc. Attempts are being made to revitalise the institutions at town, block and district levels and several legislative and constitutional amendments are being brought about necessary for this purpose. It is argued that the best way of involving the government in the provision of public utilities, would be at the town or community level.

The need for improving the management of the local bodies has been recongnised. It is believed that these bodies would not be in a position to shoulder the responsibilities assigned to them, maintain separate accounts for capital and current expenditures, augment their internal resources etc. unless their administrative set up is tuned up for this purpose. Solutions in terms of introduction of proper accounting system, training of the personnel at all levels, increase in the staff strength etc. are being recommended and adopted. It is felt that all these measures would enable the urban bodies to increase their tax and non-tax revenues, prepare bankable schemes for capital expenditure, mobilise institutional resources take over the overall development responsibility at the local level. A professional and managerial solution is thus being proposed for tackling the urban problem in the context of providing housing and basic services.

"The international development cum financing agencies have advocated adjusting standards of services to affordability and raising the prices to recover the costs so that the entry of private entrepreneurs in these sectors becomes feasible. Advocates of this policy would, however, welcome this because, it is pleaded that, the best way of helping the poor would be first to help those who can help themselves. This would invariably reduce the pressure of demand at lower levels and the people therein can benefit from the trickle down effect. Subsequently, however, when the public agenices have adequate resources, they can reach the bottom sections of urban population directly through subsidised programmes.

Devolution of funds from states to local governments is considered an important component in the new system of urban management. It is proposed to link up the funds devolved to a municipal body with its performance, efficiency and tax collection efforts. The gap filling approach under which local bodies incapable of raising resources on their own were automatically eligible for revenue grants to meet their budgetary deficits, is being discarded as this offers no incentive for resource mobilisation. The Revised Grant System introduced in West Bengal under Calcutta Urban Development Project III, at the instance of the World Bank, gives greater weightage to tax mobilisation efforts etc. rather than to infrastructural needs or development requirements This system of devolution is likely to gain currency in other states as well with their Municipal Finance Commissions proposing schemes for transferring funds based on "objective criterion of performance and tax effort."

For ensuring efficiency in management, community participation and decentralised decision making, it is proposed that cities with more than five lakh population would have two-tier organisational system. NCU has recommended that in these cities, Local Level Councils should take up the responsibility of providing basic services while the task of development planning and administering higher level functions could be taken up by the Corporation. This would definitely be an important step in achieving parity between affordability of the community and quality of services since local councils in relatively well-off areas with stronger financial base are likely to provide better services and recover costs from their residents.

It is argued that Housing Board, Development Authorities, Municipal Corporations involved in house building activities must not take upon themselves the responsbility of arranging long term finance for the beneficiaries. Separate institutions like NHB has been created to facilitate provision of housing loans to individuals whereas the commercial banks are being made to channelise additional resources to this sector. Arrangement of funds and recovery of loans would, therfore cease to be the responsiblity of the housing agencies. Moreover, it is proposed to develop the secondary mortgage market for the housing sector and integrate it with the general capital market. This would gradually eliminate the system of fractured or differential interest rates for different groups of people and enable the Housing Boards etc. to function as purely house building agencies unfettered by multifarious social obligations imposed on them.

Proposals have been made to transfer much of the responsibility of financing capital costs as also current deficits of the public agencies engaged in housing and urban development sectors to the

banking system. Banking system being financially self-sustaining, this transfer of responsibility into it would significantly reduce the pressure on the public sector funds It would, therfore, be possible to meet the demand of finance for housing and urban development sectors from the government within the present level of plan allocation.

The National Housing Policy Document released recently by the Ministry of Urban Development asserts that provision of shelter and basic services are investments in human resources. Similar policy statements have been made by the NCU and other high powered committees. Despite this, allocation for housing and urban development has gone down in relative terms from the sixth to the seventh five year plan, a trend which is noticeable since the second plan itself The share of public sector in total housing investment has gone down from 30 per cent in early fifties to less than 10 per cent in the eighties. Given this trend, the central and state governments are likely to settle down as facilitators and the private entrepreneurs may takeover the total production responsibility in these sectors. Housing Boards, Sewerage and Sanitation Boards, Development Authorities, Municipal Boards etc Would gradually bring down their dependence on government funds, reduce subsidies and take-up only economically viable schemes using funds from the banking sector What, however, is not clear is how these and the contemplated relaxations in the existing controls on private sector would enable the 5 million or more of the houseless population and 108 million population not served through water supply and sewerage system in the urban areas of the country to get these by 2001, an objective which has been announced and accepted at the highest level.

There is undoubtedly a scope for improving the managerial efficiency of local bodies resulting in an increase in their internal resources. However, the proposed measures are unlikely to help, particularly the small and medium towns and also the large cities in backward regions, in generating adequate tax or no tax revenues for maintaining their service systems on a self sustaining basis It is still more unlikely that they would be able to undertake capital investments by borrowing funds from banks or an "Integrated capital market". Available data indicates that lifting of highly subsidised funds from HUDCO by the local bodies in these urban centres is extremely low due to their weak economic base. With the present level of inequality in asset distribution and unequal access to social and political institutions, powers given to people are bound to be cornered by a few The disparity in the per capita expenditure between large and small urban centres and those in developed and backward regions is extremely high and growing over time. Decentralisation and autonomy of local bodies would mean passing down the responsibility of generating funds for development to them which presently, most of them would be able to shoulder. There is no management solution to the complex politico-economic problems of urban development in the country.

It is indeed true that housing and infrastructural projects undertaken by the government often failed because people's participation was not built into them But it should be possible to obtain their participation without passing on the responsibility of meeting the labour and non-labour costs of the projct from within the beneficiary households, government providing only the managerial and technical inputs.

The strategy of restricting the public sector agencies in housing to only construction of dwelling units and not long term financing of loans would improve the budgetary position and may transform the former into production units pursuing efficiency and a higher rate of return, similar to an industry. However, it would then become difficult for these agencies to discriminate among different groups of buyers and take upon themselves the responsibility of meeting larger social objective like providing shelter to the homeless. Houses constructed by them would be sold at prices covering the costs (some cross-subsidisation being permitted within a project) on a free hold basis and on a cash down payment This would invariably result in lossening of social controls over property transfers than in the past. Finacning of loans would be done by banks and they would find it far more difficult to discriminate among beneficiaries based on multifarious criteria or promote larger social objectives. The new system might encourage building activities for small plot holders or those applying for small loans, as visualised by the NHB. This, however, does not guarantee the benefits going to the urban poor, particularly because the government would have very little control over ownership. Even the limited objective of increasing the supply of small dwelling units in the market without being concerned about their ownership might stand defeated since the property rights can be transferred and plots combined to permit construction of larger houses.

There is a risk that the adoption of solutions affordable to individuals or communities and two tier system of city administration wherein the local councils take over the responsibility of providing basic services would segment the city into rich and poor localities with disparate levels of services. Poor may find shelter only in marginal lands within the city or in the periphery away from their places of work This process of segmentation has already begun in most of the metropolises and a few large cities. One way of reducing disparities in the basic services would be to make the rich and poor depend on the same sub-system of infrastructure and tie up their fortunes to a limited extent by putting them in the same locality This would, however, become increasingly difficult under the new system

The policy perspective of generating resources from among the poor households for the provision of shelter and basic services (underlying the Home Improvement Loan and other similar shemes being

(Contd. on page 25)

Local self-government in urban India

Dr. R.K. Wishwakarma

After analysing the historical growth of the concept of local self-government, the author says that the municipal government has today become a synonym for maladministration in the whole political fabric of the country. The proposed Amendment bills (64th and 65th) to the constitution are milestones in strengthening and development of the Panchayati Raj institutions and urban local bodies for democratic decentralisation and revival of democracy at the grass-root level in the country, says the author. The proposed amendment bills will solve the conflicting claims of rural and urban development, the author feels.

THE LOCAL-SELF GOVERNMENT AS THE nomenclature implies means self-governing authorities with defined functions, powers of taxation, legal rights and the necessary organisation to act independently on a territorial space to regulate its own affairs, in general In spite of the structural difference in the territorial space (rural or urban), the term local government would cover the entire family of local-self governing institutions. It may be a village Panchayat, Rural Council, Municipal Council, Municipality, Municipal Corporation, Notified Area Committee, Town Area Committee, Cantonment Board etc The local-self government in India therefore has two contrasting models of local governance-uran with considerable variations in local autonomy and local executives and rural-covering a vast area of a district with an indirect voter-participation Although the basic units of local-self government are based on a distinction between territorial characteristics of a population-rural or urban, what is more important is the sense of community participation, their general functions and a limited area for meaningful dialogue, discussion and action.

The utilitarian philosophy paved the way for the growth of the concept of local-self government. In his celebrated treatise 'Considerations on Representative Government' (1981) John Stuart Mill valued the concept as the 'public education of citizens' and a 'beginning of independent political life' The later Constitutional reforms in the democratic civic governance found their institutional expression in the reforms brought about by Lord Mayo's Resolution of 1870 and Lord Ripon's Resolution of 1882 who visualised the constitution of local-self government institution on democratic lines. These resolution's also sought the participation of the community as well as the cooperation of officers for promoting a responsible government in the country. The Decentralisation Commission of 1909, the Montagu-Chelmsford Report of 1918, the government of India Acts of 1919 and 1935 opened new vistas of development in democratic decentralisation and for soliciting cooperation of Indians in the administration of the country. Several fresh legislations with more powers and functions were enacted on local-self government But the conflicting claims of administrative efficiency and political education of the community left far behind the cause of local-self government. The local-list of taxes and the financial autonomy as provided by the Act of 1919 was substituted by the government of India Act of 1919 and the government of India Act of 1935 in terms of federal list, provincial list and concurrent list This British legacy, of course with certain changes and transfer of items of taxation still continues to persist. The Constitution did not provide any financial autonomy to local-self government by reintroducing the local list even after attaining independence

Constitutional Status

The constitutional provision regarding 'local government' is somewhat ambiguous, as it finds reference in the Article 40 of the Constitution which directs the states to organise Panchayats and to empower them adequately so that they became viale units of local-self government There is no counterpart provision for urban local government. Only entry 5 of the Seventh Schedule of the State list places 'local government' including 'urban local government' within the legislative competence of the states. The Seventh Schedule treats the 'elective' and 'appointed'

local authorities on the same footing without making it obligatory on the part of the state governments to endow' local government's with adequate powers and financial autonomy. As a consequence , the urban local governments till today continue to be at the mercy of the state govenments and enjoy only those powers and functions which are delegated under state legislatures. Thus it needs no emphasis that municipal government in each state has to function within the ambit of specific laws which determine the nature of state-municipal relations, also.

Further reforms in urban local-self government have also flowed from (i) The Local Finance Enquiry Committee (1949-51), (ii) the Taxation Equiry Commission (1953-54) (iii) The Rural-Urban Relationship Committee (1966) (iv) The Central Council of Local-self Government, (v) the conference of the State Ministers for Town & Country Planning and the conference of Municipal Corporations, all of which have been constituted by the central government. The Central Council of Local-Self Government has played a dynamic role in the field of urban local government reforms. It appoints committees charged with specific terms of reference (i.e. The Committee on Augmentation of Financial Resources of Urban Local Bodies (1963), the Committee on Service Conditions of Municipal Employees) and examines specific problems and issues relating to urban local government. In the year 1980, the Council was renamed as the Central Council of Local Government and Urban Development and acts as an advisory body to the central government, on matters of allocation of funds to the local authorities and their periodic review.

Several state governments also have set up committees to examine the problems and issues relating to urban local government in their respective jurisdictions. They also enacted new legislations for the rationalisation of municipal laws-and streamlining municipal personnel by appointing and empowering the chief executive. Following the recommendations of Rural-Urban Relationship Committee (1966), several states have set up Municipal Finance Commissions and the state Directorates of Municipal Administration for streamlining the functioning of urban local bodies. Besides so much reforms, the institution of urban local government, as it exist today, is not an independent entity, although still 'the name autonomous clings to such bodies.'

The Report of the Study Group on Constitution and Laws of Urban Local Bodies and Municipal Corporations have pointed out that the municipal governments" suffer from the misgovernance syndrome which terms from the internal organisation of the municipal government itself, built upon the lines of the 19th century liberal democratic traditions with centres and subcentres of decision making posing serous problems of coordination ... Today the municipal government has become a synonym for maladministration in the whole political fabric of the country. There is increasing tendency of the state governments frequent use of opprobrious devices of devolution and suppression charged with political overtones.(There are 2831 urban local bodies consisting of 73 Municipal Corporations, 1770 Municipal Councils/ Municipalities, 936 Town Area Committees and 52 Cantonment Boards. Of the 73 Municipal Corporations, 47 were without elected bodies, as of 1983). The action is more punitive than reformatory". Over the years, there has not only been supersession but also erosion in functions of urban local bodies. As a number of special purpose development authorities, like Urban Development Authorities, Housing Boards, Electricity Boards, Water Supply, Sewer and Drainage and Transport Under-takings have been constituted by the State governments to carry the task of urban development.

Needs and resource gap

In the wake of growing economic pressure of industrialisation, urbanisation and a large scale migration of people from rural to urban areas, the management of urban affairs needs to be tackled on priority ground. The National Commission on Urbanisation (1988) observes that the "urban local bodies which are responsible for managing city services are woefully short of resources, both for maintenance of existing services and for making the capital investment for further expansion". The Seventh Finance Commission stressed on the need for support to urban local bodies. The Eighth Finance Commission went further and commissioned a study by NIUA which revealed that even at the existing level of services, as of 1979-80, the urban local bodies needed an additional amount of Rs. 500 and Rs. 800 crores per annum, respectively for maintenance and catering to the needs of 'normal expansion' of the towns. The gap between needs and resources, as estimated by the Zehariah Committee on Augmentation of Financial Resources on Urban Local Bodies (1963) was of the order of Rs. 91 crores, as of 1960-61 Even the share of municipal expenditure in the overall government expenditure by centre, state and local government combined has declined from 8 percent in 1960-61 to 4 5 percent in 1980-81. But the corresponding urban population has increased from 16 to 24 percent

Since the resource base of urban local bodies is very weak, the paucity of resources has caused the ugly face of urbanisation, growth of poverty, malnutrition, diseases, health and squalor growth of slums and squatters, degeneration of old city areas, and a total decline in the urban quality of life and degradation of environment The problems are growing day by day and are becoming unmanageable. The NCU observes that "urbanisation is alsmost-coterminous with a total-absence of planning and of even the elementary infrastructure necessary for the existence of a city Parodoxically, as the urban population increases and the contribution of the

towns to national wealth rises, the status of urban local bodies declines. There is every genuine effort to build up self-governing units of rural administration, but there is no corresponding strengthening of urban local bodies in India". This precisely needs linking of both urban plan financing and revenue allocation under the aegis of state finance commissions till such time alternatives are decided by the state governments.

Strengthening of Grass-root democracy

The Prime Minister-Rajiv Gandhi in his recent addresses at five workshops of the District Magistrates held at Bhopal, Hyderabad, Imphal, Jaipur and Coimbatore during December 1987 and June 1988 seems to have felt that the political base of the country at the grass-root level is somewhat narrow and so he has shown his renewed interest in grass-root level democracy. 'Democratic decentralisation' to the Prime Minister "is not merely a devolution of responsibility". Any democratic institution must exercise the responsbility of financial discipline, on the one hand, and protecting and safeguarding the interests of the weaker section-the most disadvantaged and vulnerable sections of the society, on the other. "Authorities that merely spend can never be financially responsible for fiscal discipline and responsible planning, it is essential that at least some part of the revenues and resources be raised by the spending authority. That is indeed a question much bigger than the mere balancing of budgets, "remarked the Prime Minister

The proposed Amendment Bills (64th and 65th) to the Constititution are milestones in strengthening and development of the Panchayat Raj Institutions and Urban Local Bodies for democratic decentralisation and revival of democracy at the grass-roots level in the country These two bills are the land-marks not only for the statutory delineation of their powers, functions and resources but also for expanding the political base of the country.

In so far, as the strengthening of urban local bodies is concerned, the proposed 65th Amendment Bill states that:

"Having regard to the inadequacies in the existing system and keeping in view the need to endow urban local bodies with such powers and authority as are necessary to enable them to function effectively as units of local-self government, it is proposed to add new provisions in the Constitution relating to municipalities, that is to say, Nagarpalikas"

The Bill proposes, nagarpanchayats for "transitional" area i.e areas in transition from rural to urban with a population between 10,000 to 20,000, municipal councils for urban areas with a population between 20,000 to 3,00000 and municipal corporations for urban areas with a population exceeding 3,00,000. Further decentralisation is sought to be done through the constitution of ward committees in Nagarpalikas having a population of more than 100,000 and zonal committees at intermediate level in the territorial limits of municipal corporation. Thus three tier structure of urban local bodies in cities of more than 3,00,000 (i.e. municipal corporation, zonal committees and ward committees) is proposed to have positive impact on the grass-root level democracy and the citizenry.

The proposed amendment bill also empowers urban local bodies to prepare their development plans, implement them and seek social justice. The twelfth schedule containing 37 areas of functional administration will have to be exclusively assigned to the urban local governments without any external interference. Assigning plan preparation function to the urban local bodies will automatically ensure integration of local plans into state plans, a much needed built in mechanism for financial integration. This will ensure the needed flexibility for the successful implementation of development plans.

In so far as the resources of urban local bodies are concerned, the proposed Bill provides for setting up of state finance commission for reviewing the finanical position and making recommendations to the Governor as to "the principles which should govern the determination of the taxes, duties tolls and fee which may be assigned to or appropriated by munipalities";the distribution of net revenue proceeds between the states and the municipalities; and the allocation of grants-in-aid from the consolidated fund of India. The state finance corporations thus will take care of both revenue allocations and plan assistance, a much needed action for harmonising municipal budgets with plan and non-plan budgets of the state.

A perspective

The proposed amendment (64th and 65th) to the constitution is going to resolve the conflicting claims of rural and urban development, an unwanted dichotomy in plan administration The amendment provides for a committee at the district level to 'harmonise' or 'consolidate' the development plans of both Panchayats and Nagarpalikas, a much needed constitutional recognition This is what the government proposes to do by amending the Constitution. Th National Commission on Urbanisation feels that a due weightage has also to be given to the social wealth of the towns and cities created over generations and its exploitation or appropriation for private profit without participation in its creation, upkeep and upgradation, as is done by business (houses, firms, industries and other establishments) which get located in the city should not be permitted, without their participation in the process of creating new social assets in a city. If this recommendation of the Commission is to be given some meaningful importance "free riders" who contribute nothing, from consuming the product (urban services, infrastructure and a quality of urban life) relatively more, have to pay for. And this, if not autonomous should be made obligatory (under Constitution) for participation in urban development. □□□

Issues in Indian higher education

S. Nayana Tara

Investment in human resources is a powerful factor for economic growth. Improving the higher education system is vital for the country's progress since it contributes to national development through dissemination of specialised knowledge and skills says the author. According to the author, we have a large system of higher education but the developments in this field are uneven. Hence the author advocates a thorough reorganisation and restructuring of our current university machinery.

HUMAN RESOURCES DEVELOPMENT necessarily assumes a key role in any development strategy, particularly in developing countries. Economists were right in arguing that investment in human resources was a powerful factor for economic growth. Although calculated approximately and sometimes arbitrarily, the rates of return for such investment showed that in terms of productivity the rate of return of education expenditure on education was as high as, if not higher than, the investments elsewhere Hence more and more money was invested in education. In addition to economic reasons, social and political factors were also responsible for the expansion of higher education

The admission pattern to different disciplines can be related to the needs for professional skills in the economy, atleast in broad terms. New structures of higher education, combining education with work experience in different forms may be developed to relate the world of higher education to the world of employment. Attempts may be made to involve the institutions of employment with the institutions of higher education in formulating policies

Demands to reorganise the curricula of the higher education system oriented towards development needs of the economy in respect of cognitive skills and such affective skills as would encourage self-employment after graduation will also contribute in reducing the problem of graudate unemployment. The higher education system has a role to play in these attempts.

The education policy perspectives

There have been committees and commissions which have gone into the various aspects related to education and have putforth very laudable recommendations The National Policy of 1968 marked a significant step in the history of education in post-independent India. Since the adoption of this policy, educational facilities have undergone considerable expansion at all levels. Perhaps the most significant development has been the acceptance of a common structure of education throughout the country and the introduction of the 10+2+3 system by most States A beginning was also made in restructuring of courses at the under-graduate level Centres of advanced studies were set up for post-graduate education and research.

The New Education Policy of 1986 lays special emphasis on the removal of disparities and to equalise educational opportunity. This includes giving equal opportunity to women, Scheduled Castes, Scheduled Tribes and other minorities.

The current scenario

The policy also lays stress on improving the higher education system. There is a very significant pressure on the higher educational system and a decline in the standards of quality making it impressive to restructure the pattern of higher education system. The approach to the Seventh Five Year Plan has emphasized that one of the primary tasks is the harnessing of the country's abundant human rsources and improving their capability for development with equity

The Sixth Five Year Plan provided for mass education through programmes of elementary education. It also envisaged increased bias towards practical aspects in secondary education, vocationalisation of higher secondary education and restructuring of under graduate courses with a vocational bias. Forging beneficial linkages between education, employment and development was another objective in the field of higher education.

Improving the higher education system is vital for the country's progress since it contributes to national development through dissemination of specialised knowledge and skills. Being at the apex of the national pyramid, it has also a key role to play in producing teachers for the education system. To quote the National Policy of Education 1986, "In the context of the unprecedented explosion of knowledge, higher education has to become dynamic as never before, constantly entering unchartered areas."

Taking into account the enrollment pattern in higher education, we find that in terms of number of colleges, enrollment etc, the numbers have been increasing at a pace that is astounding.

Taking into account the general enrollment in higher education (excluding pre-university/intermediate/pre-pro-fessional levels) from 1960-61 to 1984-85 we find a phenomenal growth in enrollment from 1950-51 to 1984-85.

The main thrust areas of the Seven Five Year Plan were, (1) achievement of universal elementary education; (2) reduction of illiteracy in the age-group of 15-35 years; (3) vocationalisation and skill training programmes at different levels of education, (4) upgradation of standards and modernisation at all stages of education with effective links with the world of work and with special emphasis on science and environment and on value orientation, (5) provision of facilities for education of high quality and excellence in every district of the country; and (6) removal of absolescence and modernisation of technical education, as stated in the Seventh Five Year Plan document The major strategy for achieving these objective would include effective decentralised planning and organisational reforms, promotion of informal and open-learning systems, adoption of low cost alternatives and optimum use of resources, forging of beneficial linkages with industries and development agencies and mobilisation of community resource and societal involvement

Future perspective

As per the Seventh Five Year Plan, the main emphasis in higher education would be on consolidation, improving standards and reforms in the system to make higher education more relevant to national needs and to forge forward and backward linkages of higher education with employment and economic development. It proposes to expand general higher education facilities by careful planning so as to take care of the need to provide better access to weaker sections and first generation learners from backward areas. It also proposes to start a network of facilities which would be provided through open universities, correspondence courses and part-time education to meet social demand and the need for continuing education.

The Indira Gandhi National Open University was established as a pace-setting institution. This University would, besides offering courses in higher education based on the principles of the open learning system, will also be responsible for training of personnel, production of Programmes and development of material for utilisation through the electronic media The national for utilisation through the electronic media. The national open university would function as a nodal resource centre for coordination of programmes and development of models for distance education, documentation and dissemination of information and organisation of appropriate support programmes

We have a large system of higher education but the developments in this field have been extremely uneven The facilities provided in various universities and qualities vary The main features of the programmes and strategies to impart the necessary dynamism to the higher education system will consist of the following as per the Programme of Action Document on the National Policy on Education of 1986 brought out by the Government of India;

Enrolment in Higher Education
(Excluding Pre-University/Intermediate/Pre-professional levels) University Teaching Departments/University Colleges and Affiliated Colleges)
(1960-61 to 1984-85*)

Year	Under-Graduate		Post-Graduate		Research		Total Enrolment
	No	%	No	%	No	%	No
1950-51	145	83 7	20	11 5	1 4	0.83	174
1960-61	472	84 7	59	10 6	5.1	0 91	557
1970-71	1746	89 4	161	8 2	13 3	0.68	1954
1980-81	2401	87 2	273	9 9	32.2	1 20	2752
1984-85	3111	88 0	336	9 5	38 9	1 10	3539

Note: (a) Here in the year-wise figures, the per cent total of under-graduate, post-graduate and research do not come out to be 100 as figures of P.U C etc. are not presented here.
(b) * - Estimated

Sources. Quoted in Basic Educational Data, NIEPA, New Delhi, 1986, Table 5 1

1. Consolidation and expansion of institutions
2. Development of Autonomous Colleges and departments
3. Redesigning courses
4. Training of Teachers
5. Strengthening research
6. Improvements in efficiency
7. Creation of structures for coordination at the state and National levels
8. Mobility

It has been found that most of the 150 universities and 5000 colleges do not have a minimum level of infrastructure in the maintenance of quality and standards. This is a pre-requisite for the sound development of the education system. The State Councils of Higher Education are supposed to prepare coordinated programmes of development of higher education in each state for consolidation.

The system of affiliating colleges to universit'es has been a prevalent system for a long time. First the systems were designed when the number of colleges and universities were small. The colleges in a particular area came under the umbrella of a particular university and looked up to the universities for any changes in the educational system and curricula. The university acted as the examining body and awarded degrees on behalf of the colleges. After Independence as shown in Table No. III, the number of educational institutions have increased manifold an the universities increasingly find it difficult to administer them.

Need for re-vamping

As has been stated earlier, higher education institutions are now regarded as instruments of change in the society. Our society being a diverse one, its problems vary from place to place and from region to region. These call for varied approaches to solve acute problems and to make quick decisions. This is very essential for redesigning curricula, teaching methods and techniques and to make them more need-based and for bringing about innovations. The affiliating system only strangulates and is a major barrier in this regard. The large number of affiliating colleges in a university have also become a drag on the process of modernisation an improvement of standards.

Autonomy-concept

The autonomous status for colleges is aimed at giving an opportunity to the teachers and the students to make innovations, utilise their creative talent, improve the standards of teaching, examination and research and to quickly respond to social needs.

An autonomous institution would have the liberty to take up the responsibility of academic progrmmes content and quality of teaching as also for admission and association of students. Its ultimate aims is to work for excellence. An autonomous college would be fully accountable for the content and quality of education that it imparts. It would be also made responsible for evaluation of the students for awards of degrees which would be accepted by the parent university.

At the same time University Grants Commission has laid down certain criteria which the colleges have to meet before they can be given an autonomous status. Some of the major criteria include academic reputation and previous performance in university examinations, economic attainments of the faculty, physical facilities; institutional management; financial resources that the management/state government can provide for the development of the institution; extent of academic freedom enjoyed by the faculty for advanced scholarship, research, extension and so on.

Autonomy implies more responsibility coupled with a high level of accountability. It also means additional work for everybody concerned and hence currently there is a lot of reservation on the part of students and the faculty concerned against conferment of autonomy In fact there is an uproar against this concept of autonomy. Initially, the Government of India had planned to give autonomous status to about 500 colleges before the end of the Seventh Plan Period but it has run into many difficulties with regard to implementation. This was supposed to be a precursor to the replacement of the affiliating system in the long-run according to the Programme of Action Document of the National Education Policy. They are of the opinion that lot more spade work needs to be done before autonomy can be given to colleges. Building up an awareness for the need for autonomy as well as to convince the faculty assumes major proportions in this regard. The pioneers in starting of autonomous colleges was Tamil Nadu in the Southern part of India, and some of the colleges have been working as autonomous institutions for a decade now. Although there are some success stories with regard to implementation of autonomy, the reality shows that it is not a rosy picture Even some of the autonomous colleges over a period of time have run into problems.

Even in Tamil Nadu the experiment is running a meandering course A few colleges sailed into rough weather largely on account of teachers' opposition. Many of the autonomous institutions in Tamil Nadu have succeeded in designing multidisciplinary courses of relevance to society

Some of the arguments against autonomy include reasons like:

(1) That it is elitist with its attendant snobbery; that they overload teachers with extra work and make managements all powerful, leading to their inference that autonomy degenerates into autocracy and (2) that students are left with very little time for activites like sports, and such other activities.

The advocates of autonomy counter these arguments by saying that (1) elitism in the academic sense is required in the context of pervasive mediocracy. (2) that it is not overloading teachers with extra work but that the pedagogues themselves would willingly take up various tasks (3) the managements are not being vested with additional powers but they are subject to the same regulations as for an ordinary college (4) The students are encouraged to take part in activities which make for their alround personality development.

The Programme of Action Document also refers to the aspect of accreditation and assessment machinery. They visualise setting up of a mechanism which would encourage as assessment of institutions and also assessment and accreditation by a Council of which these institutions are corporate members, and the quality of participation and performance would be constantly monitored and improved. It also proposes to develop a mechanism for accreditation and assessment for managing and raising the quality of institutions of higher education. The Policy also visualises measures to facilitate inter-regional mobility by providing equal access to every individual on the basis of merit.

As has been stated before, the Policy objectives are laudable but translating them into viable strategies for action is important. The alarming situation in the field of higher education needs immediate attention before it becomes explosive. Another evil which we come across in many universities today is the problem of strikes by the students/faculty or the administrative staff. It is very essential to maintain peace and and keep up the sanctity needed in the "Temples of Learning" There is also a pressing need for inculcating proper moral and ethical values in our students community Most often problems in institutions arise out of political intervention The various organisations or staff assosiations which can be very useful tools for better working of the universities/colleges have become breeding grounds for politicians and inturn create lot of dissidence quite often resulting in grave results. Hence depoliticiation of our university/college system is imperative. As has already been pointed out, (i) teaching, (ii) research and (iii) extension are the three important functions of higher education and at all costs it should be ensured that these activities are pursued relentlessly by giving full support.

In a majority of the universities the existing administrative structure is no longer a viable one. The changes envisaged in higher education system include a thorough reorganisation and restructuring of our current university machinery. It is also necessary to decentralise the eductional administration for improving the efficiency of the system.

Currently we find that there is no effective machinery for planning and coordination of higher education at the State level and also for coordination of state level programmes with those of the University Grants Commission. This has also created problems in the smooth functioning of the higher education systems. The present university machinery is also finding it difficult to administer the thousands of colleges under its wing on account of a lack of management information system. Hence the UGC has sanctioned several lakhs of rupees for computerisation of essential services. Use of Computers in education has also come into vogue in a big way and many of the colleges are opening up courses on computer usage as electives in the respective colleges This subject as well as electronics is attracting a large number of students for such programmes but the managements are finding it increasingly difficult to cope with such a demand

Another strategy envisaged by the New Eduction Policy for reducing the pressure on the higher education system is that of De-linking Degrees from jobs The realisation that different jobs require different combinations of knowledge, skills and aptitudes, makes it pointless to make lakhs of students to go through the mill of general higher education

All these experiments are being attempted. Any new scheme will take considerable time to stabilise and show results. It is important to see that a thorough change is attempted without merely making cosmetic changes Only then can our Higher Education System be revamped in the desired direction. ■■■

(Contd. from page 18)

adopted by banks, Urban Development Authorities, Housing Boards etc.) need to be examined with empirical rigour. It appears that the bottom forty per cent of the urban population are struggling hard to fulfil their nutritional requirements, and around eighty five per cent of their consumption expenditure is on food (including pan, tobacco etc.) and fuel only. It might, therefore, be erroneous to expect these households to mobilise a substantial proportion of resources required for the provision of their minimum needs of shelter, water, sewerage and sanitation facilities. In fact, a large majority of them are nutritionally deficient, unable to buy bundle of commodities from the market which can ensure them minimum calorie requirements. The scenario that the government withdraws from the sphere of providing housing and urban basic services and acts only as a facilitator and a freer market resulting from the reduction of legislative and administrative control backed up by an efficient ankling system gaurantees the minimum need to all including the urban poor, therefore, appears overtly optimistic. □ □ □

Universalisation— why shall we lag behind ?

Dr. P.C. Mohapatra

The author here emphasises the importance and necessity of universalisation of elementary education. He sees a nexus between it and adult education and co-relates both to the development of the country's economy. The author suggests some steps like doing away with the population criterion as regards schooling facilities and reassessment of minimum facilities and asks as to why should we lag behind when most developing countries have reached the goal.

INDIAN INDEPENDENCE CAME AT A CRUCIAL TIME of modern history We were called upon to share among ourselves and other nations, the crisis of man's predicament arising from the explosions of know-ledge, population, human expectations and technological developments. Jawaharlal Nehru's "Tryst with Destiny" in 1947 implied the making of a new man and a new society to which education was expected to make most significant contribution.

Increased percentage

The most stricking feature of development since independence is the remarkable growth of increased percentage of literacy from 14 per cent to 37 percent Determined efforts have been made towards the provision of free compulsory education to all children until they complete the age of 14 years as per Directive Principles of State Policy. A new dimension was added to Elementary Education with the introduction of non-formal education for the age group of 6-14 and more impetus was given to Adult Education programme in the form of National Literacy Mission enabling the adults to realise the value of education. The educational development from 1950-51 to 1986-87 reflects the phenomenal growth at all level of education.

Largest system

With about 7 lakh institutions and near about 12 crores student population, it is one of the largest systems in the World. However a glance at the percentage of enrolment reveals that the gross enrolment ratio in the year 1960-61 was only 63 per cent which has risen to more than 117 percent Similarly the progress of Girls education has taken a leap forward with a gross enrolment of more than 70 per cent. However the dropout rate being 52 percent only 48 percent of the enrolled are retained at class-V level. At the upper-Primary stage, the enrolment ratio of boys and girls may be slightly morethan 66.6 percent and 33 7 per cent with a total representation of 47 5 per cent only Thus approximately slightly morethan 95 per cent of children in 6-11 age group and lessthan 55 per cent in 11-14 age group have so far been enrolled in schools Disparities are more conspicuous in case of enrolment and retention among the scheduled caste and scheduled tribes and incase of urban vis-a-vis rural areas. Literacy rate has increased from 16.16 per cent in 1951 to 36.23 per cent in 1981 leaving aside 425 million illiterate population is a cause enough for serious concern.

Indicators of change

This scenario of educational development cannot be divorced from overall achievements in economic development. One of the striking development-perhaps the most striking in the last 40 years-is the progress of economy from one of reliance to self-reliance, from one of dependence to independence Progress has a wider meaning than development or growth, for it should rightly be interpreted to mean a social transformation, or at least a steady move towards the goal. Keeping all these development indicators and physical quality of life index in front if we take a synoptic view of our achievement from 1950-51 to 1984-85 a definite affirmative answer will be India has experienced growth.

Table 1

Indicators of change and our progress

Indicator	Unit	1950-51	1984-85
1. Population	Million	358	761
2. Birth Rate	per thousand	39.9	32.6
3. Death Rate	per thousand	26.6	11.00 (Apprx.)
4. Infant Mortality Rate	per thousand	146	105
5. Life Expectancy	years	36	56.5
6. Literacy	% Population		
Total		16.7%	37%
Male		24.95%	46.74%
Female		7.93%	24.88%
7. Gross Domestic Product at factor cost	Million	95680	1934280
8 Industrial Production	Million Tons. 1970-100	27	182.3
9. Food Grain Production	Million Tons	50.8	150
10 Electricity	Million KWH	5107	16700
11 Towns & Villages Electrified	Number	23960	368840
12 Employment in organised sector	Million	12.1	24.8
13 Universities	Number	25	145
14. Percapita Income	(at 70-71 prices)	466	775
15 National Income		16731	57243
16 Scientific Journal		—	2000
17 Gross National Product	(at 70-71 crores)	17469	61427

Thus the country's economy has been freed from the shackles of prolonged stagnation and launched on the path of growth towards self-sufficiency in agriculture, high growth rate of industrial production, decline in population below poverty line from 60% in 1960-61 to 37% in 1986 (poverty line has been defined in terms of annual income of Rs. 6400/- per annum) and growth in percapital income. Studies have revealed that if changes in grand scale (society) is to be achieved, without violent revolution, grand scale (society) is to be achieved, without violent revolution, there is one instrument and one instrument only that can be used i.e 'Education'. Education Commission (1964-66) visualising this important instrument of change had indicated that 'The destiny of India is now being shaped in her class room. This we believe is no mere rhetoric. In a World based on science and technology, it is education that determines the level of prosperity and the welfare of the people". The National Policy on Education-1986 had also substantiated the views of the Education Commission 1964-66 while emphasising the acculturating role of education, as fundamental to our all round development, material and spiritual and a unique investment in the present and future.

The demographic indicators reveal that a little over one third of the country's total population (37%) nearly as many as 273 million in absolute number even today survive critically under the crushing burden of poverty. The literacy scenario also revealed that morethan 60 percent (400 million or more) of which 84.44 percent live in rural areas are illiterates. In other words, the bulk of illiterate population in India also constitute the absolute poor in the country.

A study of the educational level of beneficiaries covered under various rural development programme and minimum needs programme by the National Institute of Rural Development shows that 50 percent were illiterates. Illiteracy being a predominent factor among the beneficiaries, and their spouses, many of the beneficiaries did not have required under-standing of different schemes, under IRDP and were not aware of their entitlement as regards benefits from each scheme as well as the amount of subsidy. As a result, the advantages of development have been syphoned off by a small minority of vested interest depriving the vast majority of people of the basic means of reasonably comfortable living. This is the cause of all unrest in the country. The frontiers of know-ledge are constantly expanding, science and technology are taking rapid strides. The majority being that of illiterates is ignorant of these new trends.

A nexus

Illiteracy is invariably associated with deprivations and socio-economic Under-development. Studies conducted by Hussain, Kothari, Mukharjee, Krisnarao and Choudhury are able to bring out the importance of education as a major component of residual factor (Progress, technical progress and technical

dynamism) and one of the basic inputs in economic development. Studies have also revealed the interrelationship between the literacy percentage, percentage of enrolment and percentage of dropouts. The table below reflects the nexus of the above hypothesis.

Inter-relationship between Literacy percentage & percentage of Enrolment and Dropouts

Sl. No.	Name of the State	Literacy Percentage (1981)	Percentage of Enrolment of children in the A group of 6-11 (1982-83)	Percentage of Dropout Class-I-Class-V (1982-83)
1.	Kerala	70.42	99 6	3.13
2.	Maharastra	47 18	114.0	52.89
3.	Gujarat	43 70	108	54.05
4.	Punjab	40.86	103	57 31
5	Orissa	34.23	87	50 32
6.	Bihar	26 20	79	67.49
7	U P.	27.16	75	42.89

Thus the culture of illiteracy among the adults directly or indirectly has the downward filteration among the coming generation. Once the literacy among the adults will increase, automatically the enrolment among the children will enhance. Even in this context the role of poverty cannot be over shadowed-Education is a concommitant to poverty and vice-versa. The studies conducted by Forner and Naik reveal that once the percapita increases, the villagers desire to educate their children which stems from the fact that they want to transfer their own unfulfilled aspirations for the mobility to their children.

Culture of illiteracy breeds culture of poverty, culture of silence, culture of deprivation and value crisis. Therefore the real national renaissaince will be deculturalisation of illiteracy through societal mission backed by strong political will. Unless this is being realised, recognised and properly implemented, the monopolisation of the few will prevail, economic disparity will continue, corruption and exploitation of the poor will prolong, bonded labour in some form will persist in, caste and religion will predominate in political arena thus dis-rupting the national integrity. The three great principles of Socialism, Secularism, and Democracy imbibed with justice, liberty, equality and fraternity would become the cry of the high landers and an examining subject rather than reality.

Realising fully well that education leads to equal opportunity to all not only in access but also in the conditions of success has been strongly emphasized in Twenty Point Programme, National Policy on Education 1986 and programme of Action. A birds eye view of the literacy rate 1981 reveals that the percentage of literacy in all ages is 36.23%. and excluding 0-4 age group it is 64.89% and excluding 0.14 it is 71.28%. Thus our major thrust will be to enhance the literacy status of the weaker section that is the age group 5-14 through formal and non-formal sector

An Investment

Studies reveal the investments in Elementary Education yield the highest rate of return and have a significant impact on productivity and general well being of the masses For example, corelation between Agricultural Development and Primary Education is 0.92% and the contribution of Primary Education to literacy is 15 percent, of middle schools 14 percent, and of the secondary education over middle is 10.5 Studies also proved that the effective returns of Primary education are more profitable in comparison to the other and the cost is comparatively less.

Universalisation

Once we think of Universalisation of Elementary Education we cannot forget to emphasize Adult Education (as the nexus between the literacy of the parents and enhance in enrolment status and decadance of dropouts had already indicated, the wastage in education in terms of 22 per cent of the total expenditure can be saved (non-enrolment and dropouts).

National Policy on Education 1986 envisages that "it shall be ensured that all the children who attain the age of about 11 years by 1990 will have had five years of schooling or its equavalent through the non-formal stream. Likewise, by 1995 all children will be provided free and compulsory education up to 14 years of age. But the crux is the framers of the Education Policy 1986 instead of using the word "Mandatory" have used the word "shall be ensured" because they have still the benefit of doubt about achieving the target. However comparatively the word "ensure" has got more emphasis than the word "endeavour"

When all the developing and developed countries of the World have already reached Universalisation of Elementary Education or are striving hard to reach the goal way shall we lag behind ? In other words the need is Universal Accessibility, Universal participation, Universal Attainment and Optimum Utillisation of the existing facilities.

Suggestions

For Universal Accessibility the casting of whip on provision of schooling facilities on population criteria should be done away with. Instead it must be mandatory for a popular government to provide a school within the reach of every child within the habitations predominantly habitated with weaker sections of the community will be deprived of the basic need of life. The disproportional growth of upper Primary Schools (one is to four) in relation to Primary Schools should be immediately dispensed with. This weak link is to be strengthened.

(Contd. on page 34)

Facility utilisation in University Sector

Zeenat Begam

The author, here, making an assessment of utilisation of facilities in the University Sector pleads that the existing facilities should be exploited to the reasonable extent, so as to ensure efficient management of resources as well as financial accountability of Universities to the funding agencies.

A PLETHORA OF LITERATURE ON educational finances has conclusively indicated that the educational institutions especially at tertiary level have been deteriorating owing mainly to the paucity of physical and financial resources devoted to the development of education sector. The studies in Economics of Higher Education have hardly focussed on the extent of utilisation of facilities that have already been created in the university sector.

There is no denying the fact that education system makes significant contribution to the national progress by way of enriching human resources and providing man power of various kinds and levels of skills for meeting the requirement of different socio-economic sectors of development. In order to comply with the manpower requirement of the society and economy a minimum level of infrastructure ought to be ensured so as to facilitate the teaching learning processes, which also implies that the existing facilities should be exploited to the reasonable extent. This is more so important because at the initial stages of development savings from hard earned income and borrowed capital are invested for expanding and diversifying various types of infrastructural facilities like transport and communication, energy and power generation plants and services like educational institutions, hospitals, etc. As the resources are always scarce and limited, especially in developing countries, like India, it is expected that the facilities already created should be fully utilised so as to optimise the gains of investments on them.

Therefore, the studies aimed at evaluation of the extent of utilisation of facilities provide a basis for further investments on creation of additional capacity. The study referred to above has examined the case of universities with a view to assessing the extent to which the educational facilities are being used in order to realize the quantitative and qualitative goods of higher education. The study is based on the analysis of such information as (i) number of teaching and non-teaching staff by levels; (ii) teaching load, in terms of teacher-student ratio and number of hours devoted to teaching; (iii) number of hours of use of classrooms, libraries, laboratories; (iv) level of enrolment; and (v) sources of finance and extent of mobilisation of internal resources especially from fees, etc

Teaching staff

Since the salaries of teaching and non-teaching staff constitute the major chunk of university expenditure (about 60 per cent), it is desirable to investigate whether adequate number of staff is provided, keeping in view the students load; and if so, whether they are fully utilised for fulfilling the university objectives. In this context, the results reveal the following:

An examination of teacher-student ratio across various universities revealed considerable variations. The average ratio for the sample of 11 universities being 1:9. In view of the fact that more than 60 per cent students are enrolled for arts and humanity courses and more than 70 per cent of the total enrolment is at under-graduate level in universities, the above estimated ratio is much lower than what would be desired from the point of view of generating economies of scale and efficient deployment of academic staff for teaching ratio is marginally lower than the national average of 1:10 for the university teaching departments in 1982-83. Moreover, this ratio compares favourably with the British universities which also operate on an average ratio of 1:10. The ratio is generally lower for science and lab based courses and higher for humanities, arts and social sciences. The message which it clearly conveys is that there is significant scope for:

(I) enhancing the quality of teaching since a teacher is to concentrate on a small number of students; or

(II) reducing the teaching cost by way of increasing the number of enrolment in the university teaching departments; or

(III) generating savings on account of teachers

salary by way of shading off the additional/ redundant staff.

In view of the low ratio, which indicates over-staffing of university departments, an attempt was made to examine the distributional pattern of teachers of various levels–Lecturers, Readers and Professors. The analysis revealed that, almost 50 per cent of the staff is at the levels of Readers and Professors which implies that a large share of teaching cost is attributable to the salaries of senior teachers. In order to ascertain the extent to which the distributional aspects of teachers in the universities are imbalanced, the accepted norm of the ratio of 1:2:4 for Professors, Readers and Lecturers respectively was applied. By using the actual number of lecturers as the standard at 4 as above, the number of Readers and Professors, was worked as per the above norm The number of Readers and Professors was thus estimated, which indicated the following.

(a) On application of the above norm, the number of Readers and Professors in the university departments got marginally reduced, improving thereby the teacher-student ratio which was earlier estimated to be very low as pointed out above;

(b) The results duly corroborate the inference drawn above, that there is significant scope for generating savings on account of salaries of teaching staff. The quality and quantity of higher education and research would remain unaffected since the ratio, by any reckoning, remains highly favourable; and

(c) If the existing staff cannot be shed off for some legal reasons, there is the case for exercising due care in pursuing promotional policy in the university sector. This conclusion is duly supported not only from the fact that the top academic ladder has become unduly heavy, as the evidences show, but also because there is a great deal of scepticism about the quality of a majority of senior staff for carrying out their teaching and research assignments. It follows that while pursuing the recruitment and promotional policy there ought to be proper justification on the basis of teaching and research load, lest the teaching cost should increase without corresponding improvement in quality of teaching and research and its relevance to the society. This is precisely what was happened in the past.

Non-Teaching staff

As pointed out earlier, in planning for educational development the requirement for non-teaching staff is generally derived on normative grounds from the total number of teaching and research staff. A research study has shown that more than 50 per cent of the expenditure on salary account is due to non-teaching staff. In view of this, it was thought desirable to examine the ratio of teaching to non-teaching staff so as to gain an idea about the extent of redundant staff in the non-teaching category. The results demonstrated that, on an average there are about 4 non-teaching staff to extend support of various kinds to one academic staff. This ratio, however, greatly vary across the universities in the sample but the average ratio of 4 is very close to the ratio estimated for the central Universities by an Enquiry Committee of UGC in 1989. Obviously, the ratio is quite contrary to the general belief that for three to four academic staff, there should be one supporting staff especially in technical and lab based courses of studies. For the courses in Arts and Humanities, the ratio may be assumed to be even higher than this. The ratio, should have, therefore, been other way round in order to ensure that a higher magnitude of resources-physical and financial is devoted to academic pursuits rather than non-academic purposes. For a sample of universities, whereas the proportion of teaching cost is 24 per cent the non-teaching cost is 33 per cent. Accordingly, an analysis of per student cost demonstrates that teaching cost is lower than the non-teaching cost. It follows, therefore, that the ratio of teaching to non-teaching staff is unduly high and so is the corresponding non-academic cost. There is, therefore, an urgent need to assess, on objective grounds, the requirements for the supporting staff.

Utilisation of classrooms laboratories etc.

Almost in every social and economic sector, the concern for making efficient use of capital investments has always been duly high since hard saved money and borrowed capital have been invested for construction of building etc. A major category of investments on university sector involves construction of adequate number of classrooms, laboratories, libraries, etc. An effort was made to assess the extent of use of these facilities as well. The results showed that capacity utilisation in respect of classrooms is merely 59 per cent though there are wide variations across different universities. In view of general paucity of capital resources, the utilisation level of at least 12 hours of use of classrooms has been pleaded even though the actual utilisation of rooms is not even for 8 hours per day.

Likewise, the capacity utilisation of laboratories and libraries is 61 per cent and 59 per cent respectively These percentages have been worked out on the basis of norms of 12 hours of use. like classrooms, Laboratories and libraries are also not used in the cases of most universities for over 8 hours per day

From the above results, it also emerges that due to under utilisation of facilities like classrooms, laboratories and libraries, etc. the use of furniture is not optimised even though the expenditures on furnishing are considerable almost in every university Furthermore, if appropriate adjustment for non-utilisation of various facilities during vacation periods is made, which could not be done in this

tudy for the want of relevant data and the lack of cceptable methodology, the degree of wastage on ccount of expenditure on facilities would get nagnified and would be much higher than what has een reported above.

Policy implication

We may recapitulate the major findings of this paper. The evidences showed that:

(a) The academic staff of universities is not utilised to the extent desirable in our country. The teacher-student ratio being very low in most of the universities, there is considerable scope for increasing the quantity of university outputs i.e. students and for improving the quality of education since a teacher is to concentrate on a fewer number of learners;

(b) The teaching cost in unduly high. A major reason attributable to this phenomenon is the appointment of senior teachers and the corresponding, higher payments to them, without having due regard to the needs of universities on account of teaching and research loads. In this context, it seems that UGC's policy of 'Merit Promotion Scheme' was conceived on grounds of non-educational considerations. As a result of which, the top academic ladders have become heavier without commensurate increase in academic and research responsibilities;

(c) The non-teaching costs as measured by the expenditure on supporting non-teaching staff, is also unduly high in terms of both percentage share as well as the absolute per student costs;*

(d) The capacity utilisation of infrastructure facilities such as classrooms, laboratories and libraries is much lower than what would be desired in a developing country like India which suffers from deficiency in capital resources; and

(e) Even though this study makes no attempt to identify the cause and effect of under-utilisation of infrastructure facilities, the evidences conclusively indicate the lack of effective planning and management of already invested resources on the university sector.

It follows from the above that there is a strong case for making an objective assessment of the extent of utilisation of various physical facilities which have already been created in the university sector. Since there has been phenomenal growth in expansion and diversification of university level institutions and their activities in the last few decades and that a substantial amount of investments has been made on the university sector, the evidences indicate that an effort ought to be made with a view to ensuring efficient and effective utilisation of scarce resources that have gone into the education system. The issue is precisely related to financial accountability of the system of providing higher education. Further, the issue is concerned with both the institutions which receive the funds for creation of facilities and are responsible for its efficient utilisation as well as the funding agencies like the Department of Education of Central and the State Governments, the UGC, etc. Much has been talked about university finances with a view to raising the level of funding, there has hardly been due focus on the management and utilisation of existing facilities. The findings of the study emphasise on the need to adopt such an objective method of funding which should duly take into account the extent of utilisation of existing facilities. The assessment of financial needs merely on the basis of various analyses of past trends, as has been the practice, does not seem to yield desirable information for working out additional investment requirements of universities. Therefore, the methods of allocation of resources for higher education ought to attach due weightage to the degree of utilisation of available facilities so as to ensure efficient management of resources as well as financial accountability of universities to the funding agencies. While the universities are largely responsible for preserving, disseminating and generating knowledge and technical know-how as well as for providing alternative policy options for national development, a situation has seemingly arisen in which they are to be told now about the significance of the physical planning; with a view to ensuring allocative and distributive efficiency of scarce resources that have been deployed for the development of the system of higher education. □□□

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Over 41 lakhs benefited under ceiling surplus land programme

64.121 acres of land has been distributed under the ceiling surplus land programme during the current year till December, 1988. The Minister of State for Rural Development, Shri Janardhana Poojary gave this information in Loksabha recently. 43,13,228 acres of land have so far been distributed under the programme to 41.72, 406 beneficiaries.

Shri Poojary said based on the consensus of Revenue Ministers Conferences, States have been urged to take various measures for getting more suplus land for distribution. The measures suggested to them were plugging loopholes and deficiencies in the ceiling laws, setting up Tribunal under Article 323-B of the Constitution for expediting disposal of cases, strengthening legal and administrative machinery, reconsideration of ceiling limits, review of exemptions granted under the laws and soon. ■

Drop-out problem in Education

P.D. Vashist

Neither the technology mission on education nor the relentless war of the state and U.T. Governments have helped arrest the upward trend of the drop out problem in education. What are the reasons which abet this trend and what are the remedies? These issues are analysed by the author in this article.

THE REALISATION THAT INDIA needed an enlightened and literate society, caught the imagination of free India. The literacy rate which was only 14% at the time of independence is now anything upto 36.2%. Likewise, the national expenditure on education which was a paltry 57 crores has gone upto 8506.62 crores. It is also a fact that more than 90% of the schools in the country are within the diamenter of half a kilometre from the house of the student.

The philosophy behind the British education policy was to produce the clerks who were to become the perpetrators of the 'raj'. The dilema still remains with the striking feature that at least there is a consciousness to discard the approach of producing the clerks in the society who feel shy of the manual and practical work once they grow up. From the 'Kothari Education Commission' to the 'Education Policy of 1968' down to the 'New Education Policy, 1986', efforts have been made to introduce equality, quality and quantity in education. One way of bringing about equal opportunities in education is the common education system of 10+2+3 which has been adopted and accepted in most parts of the country. The first 10 years break up consists of an elementary education system comprising 5 years (age groups 6-11) of primary education, 3 years (11.14) of upper primary education followed by 2 years (14-16) of high education.

Interalia relevent portion of point No. 10 of the 'Twenty Point Programmes', 1986 read as follows:—

Efforts will be made to introduce "Universa elementary education with special emphasis o girls, education". In order to ensure children' retention at school, the effort will be supplemente even via non-formal route. Hopefully, by 1995, all th children will be provided free and compulsor education upto the age of 14 years of age (a projectio which is being disputed by all the educationa pundits). In backward states of northern region e.g Rajasthan and Jammu and Kashmir on the 'principl of distance education' there is also provision for a open school. An open school can equip the learners t get access to education without interrupting thei employment pursuits as it offers the children t receive education at their door-steps, as opposed t the convention method of schooling.

According to a UNESCO study, in spite of it astounding achievements in the frontiers of science technologies and space misselry, India still continue to be the fifth most illiterate country in the Asian an Pacfic region. By the year 1990, which has bee designated as the 'International Literacy Year', Indi may not be among the 12 countries which hope t achieve full literacy by 1995.

What are the stumbling blocks which stand in th way of imparting three R's to the Indian population One major drawback has been the appalling 'dro out' problem. In order to analyse this we may go int the history of the Indian 'psyche' and its educationa system which is the direct heritage of the British ra

In the advanced West too, a century ago, th Government, did not indulge in much direct action i education. They preferred to encourage education a local and private level only and left it in the hands o the 'Church Societies'. Similar was the case in India when the spread of education was mostly private an voluntary through the system of Gurukuls and gurus The beneficiaries of this sort of education were to b only the 'haves'.

With the passage of time when modernization an technological developments took place, it becom obvious that the 'Industry' and Government neede more educated people. The Indian Government to felt that a more systematic, coordinative and uniform approach in education was needed. Such an approac was hamstrung by the country's vast magnitude and

language problem. To compound it all, the rigidity of caste system within historical times, was another barrier in education, as opposed to the same in other countries e.g. China and Japan, where the caste system is normally viewed form the secular and pragmatic angle. In those societies it is easier for a commoner to cross the caste status. In the Indian context, caste mobility neither thinkable nor pardonable, as different castes are regarded as preordained by divine providence. The reflection of the caste system has cast its ugly shadow on the educational system too. The accursed 'caste system' and 'vicious circle of poverty' have further given a major setback to the efforts of universalising education.

The drop out problem

Not only, not all the children are sent to the schools, even after their admission, they begin to 'drop out'. This 'drop out' rate continues to escalate both in the rural and urban areas. The things which separate the children of the rich parents from those of the poor in the field of education is the possession of capital. The rich parents have capital and they can spare it out for their children's education. Since till a certain age, the children of the rich are capital-intensive, this also forces them to keep their family size small. The poor normally live near to their subsistence level, for them once their children acquire the age of 10 or so, they become 'producer goods'. In the rural areas they bring fuel, graze the cattle and work as farm labourer. In the urban areas they do menial household jobs, join mechanical workshops or work as tea/Dhaba servants. That's why out of sheer economic pulls the poor/prefer to have large size families. If children of the poor did not work, the entire family perhaps would starve. Under these circumstances, it is impossile for the poor to turn aside something from nothing and send their children to school and be left with nothing to live on, while their children went to school. The poor parents are forced to pension off their children from school as soon as they are ready for the jobs and the right age for this could be once they are 9-10 years old as below that age they are too small to be accepted even by their prospective employers or allowed by thier parents to graze the cattle or cary headloads of fuel/fodder. This is one major reason for the poor children 'dropping out' between the age of 10 to 11 years. Let us take the case of girls. Why do less number go to schools and why is their 'drop out rate' higher than that of the boys ? The reasons are two-fold:—

(a) Social taboo

At the primary level, most of the institutions are co-eds. This precludes the poor and Scheduled Castes/Tribes parents from sending their daughters to school.

(b) Domestic chores

Girls even if small take to household jobs early and are a source of great help to their mothers e.g. in washing clothes/utensils, brooming the house, attending to the children or even cooking the food.

This is one reason why drop out rate among the Schedule Castes/Tribes in spite of the monetary incentives of Rs. 200/- per month per child for the children studying in classes VI to VIII and Rs. 250/- per month per child for those studying in classes IX & X has been substantial. Big question arises, what should be done even when the jet set, 'Techonolgy Mission on literacy' seems to fall short in its effort, Most of the State and Union Territory Governments in the country are seized of the 'drop out' problem and have waged a serious 'war' against the same. Haryana advertises 'One Rupee a Day' scheme to the children of 'Banjara' community. Likewise Punjab has introduced 'tool kit' incentive scheme for the students. Some of the States even give mid-day meals and uniforms to the students.

Remedy

Inspite of all this a lot more seems desired. One way could be to introduce 'vocationalization of education' after the Primary Education i.e. from 6th class onwards exclusively for the children of the Scheduled Castes and Scheduled Tribes, by delinking it from the final plus 2 stage. The second step is to link the trades learnt with assured assistance under the programmes of IRD (Integrated Rural Development) in the rural areas and other loan/subsidies schemes of wage/self-employment nature in the urban and semi-urban areas. Likewise, the big workshops and factories in the formal public and private sector too should patronise the boy and girl students and offer them assured apprenticeship and permanent jobs subsequently. If the poor are going to see rewarding 'quid pro-quo' out of the education system in terms of future employment and self-employment ventures, they will ensure retention of their kids in the schools, even after they attain the age of 11 years or above. Otherwise, 'drop out curve' would continue its sky-rocketing ascendancy even after 2000 AD and much talked about 21st century. □ □ □

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Development of anti rabies vaccine

The tissue culture canine rabies vaccine on vero cell base has been developed at Pasteur Institute of India, Coonoor, Tamil Nadu with the collaboration of UNDP and WHO. This canine tissue culture vaccine has passed all quality control and standardization tests at Central Research Institute, Kasauli and limited quantities have been issued for use on dogs on trial basis. Trials on canine rabies vaccine on dogs have been done at Coonoor, Tamil Nadu and were found to be good. Similar anti-rabies vaccine on vero cell base imported from France has been recently tested in the field by the National Institute of Virology, Pune and the results were found to be satisfactory.

BOOK REVIEW

A Hand Book to the Management of Voluntary Organisations by R. Shankaran, Ivo Rodrigues, Published by Alpha Publishers, Madras, 1988, Price Rs. 195/-; Page 385.

Laws and regulations have been passed over the year to regulate the management of voluntary organisation. There has been registration of the Voluntary Organisations under the categories of Society Act, Trust Act under section 25 of Companies Act 1956 to avoid misuse of funds or mishandling of the activities of voluntary organisations. Most of the organisations particularly in the country side, lack information and services relating to legal and technical matters necessary for managing their affairs. This book explains in detail the statutory requirments and covers crucial areas of administrative and managerial discipline, essential for the smooth and efficient running of an organisation. It provides valuable information to those running voluntary organisation or planning to set up an organisation to promote developmental activities.

The voluntary organisations have played a very important role in the socio-economic development of post independent India. There has been an increase in the social awareness and a complexity of social issues accompanying economic development. Therefore, there has been a need for comprehensive digest covering various areas of information and services particularly relating to legal and technical matters necessary for managing the affairs of voluntary organisations. The book is quite comprehensive but by no means exhaustive on the subjects covered. The book provides the basic requirements for running voluntary organisation smoothly and efficiently. The book it is hoped will go a long way in helping the organisations sort out their managerial and administrative problem and concentrate more on their objectives for which the organisation has been set up.

Basically, the book deals with two aspects—various enactments that regulated and govern the voluntary organisation and second with the norms and procedures. The chapters dealing with Societies Registration Act with explanatory notes is quite exhaustice. Chapter second deals with the Indian Trust Act of 1882, the Charitable and Religious Trust Act of 1920 and Section 25 of the Companies Act of 1956 gives detailed differences between society and trust; between charitable and religious trust; and the companies registered under the Section 25 of companies Act 1926. Chapter dealing with the foreign contribution (Regulation) Act and rules is quite comprehensive and gives a vivid account of how to obtain and regularise the foreign contributions. It also contains the various forms and explanatory notes under the act which are very helpful particularly for those who were seeking foreign assistance both financial and otherwise in running the organisation. The book is an asset to voluntary organisations.

S.K. Nayyar

(Contd. from page 28)

Minimum facilities (not the term used in operation Black Board, two rooms, two teachers and equipment worth of 7250) should be reassessed by the teachers and the students, the only two protons of the educational unit. Steps be taken to provide need based inputs so that the pupil/family related, teacher related, school system related, community and environment related factors leading to wastage in Education can be checked and the educational institution instead of presenting itself as a miniature jail will be a Happy Home Replica (home environment and the school shall be bridged) and all round development of the children can be ensured.

A worthwhile programme should be organised for the parents and the community (through different media) making them realise a) the importance of education as an input of human resources development (b) the pernicious effect of children in unhealthy operation at a tender age on their health and development, (c) every child be it a male or female is an asset and any investment if education and upbringing of children is an investment in human capital is not a waste at all. Poverty and Literacy are co-terminus. Alternative to employment of children for generation of income for household may be made, so that he can earn while he learns.

More pre-school centres and cretches shall be established in every nook and corner so that the pretext of taking care of the younger siblings at home and ultimately leading to dropouts can be drastrically curved.

The challenge

Standing at the threshold of the "Third Millennium" the success of Universalisation of Elementary Education depends on four important ingredients (i) contents of education, (ii) competence of teachers, (iii) school environment and (iv) societal involvement alongwith political commitment. The challenge is to act and implement, learn anew and improve upon and thus traverse the endless trial in the pursuit of excellence. □□□

Important recommendations of Sarkaria Commission

Though Sarkaria Commission was mainly concerned with the Centre– State Relations, they considered that in the "political system which is organically a whole, there are many peripheral matters which cast their shadow on Union-State Relations" and devolution of powers to urban local bodies was required to be stressed. The following observations and recommendations are relevant.

Importance of decentralisation of power

In India, because of diversities in religion, language, caste, race etc. there are a large number of groups, seeking to establish their identity and promote their sectional interests.

The issue of devolution of powers and responsibilities between the top two tiers of Government, Union and States, needs therfore, to be considered in the context of the broader issue of decentralisation between these and other tiers of Government on the one hand, and the functional agencies within each of these tiers, on the other. The interests and aspirations of most people are concentrated in the localities in which they live and carry on their avocations of life. Normally, they would be content to compete at a level of the local self-governing bodies, making way for persons interested in larger issues of regional or national significance, to opt for higher elective forums. Decentralisation or real power to these local institutions would thus help defuse the threat of centrifugal forces, increase popular involvement all along the line, broaden the base of our democratic polity, promote administrative efficiency and improve the health and stability of inter-governmental relations.

Unfortunately, there was not only inadequate territorial and functional decentralisation in India when the country became independent, but there has also been a pervasive trend towards greater centralisation of powers over the years, inter alia, due to the pressure of powerful socio-economic forces.

The Indian constitution creates two tiers of Government, one at the level of the Union and the other at the level of the States. At the sub-state level, also, there are tiers which are the creatures of the states. These are: Zilla Parishad (or District), Panchayat Samiti Mandal or Block in some states). It is noteworthy that the Constitution casts a duty on the State to take steps to organise Village Panchayats and endow them with powers and authority to enable them to function as units of self-Government (Article 40). In this system, the District, in particular, holds a central position.

The importance of developing adequate sub-State level political institutions can not be over-emphasised. It is only by providing opportunity to the people that they can be trained to shoulder responsibilities in a system of self-Government. In 1959, a major experiment in decentralisation of power was launched based upon the findings of the Balwant Rai Mehta Committee on Panchayati Raj. "The people are not merely to be consulted but effective power is to be entrusted to them", observed Jawaharlal Nehru while inaugurating Panchayati Raj in Rajasthan. For a variety of reasons, this bold experiment has not proved a success. These institutions have been allowed to stagnate. Elections to these bodies have not been regularly held and often they remain superseded for long periods.

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While there is considerable reluctance to decentralise powers to the districts, there has been even greater reluctance in most states to decentralise powers to the lower level like Municipalities, Panchayat Samities and Panchayats, in spite of explicit directive in Article 40 of the Constitution.

We have drawn attention in the Chapter on Economic and Social Planning to the need for decentralisation of the Planning process. The objectives of decentralised Planning can not be achieved unless the Panchayati Raj and other local bodies are allowed full scope to play their role. We are of the view that for this purpose, it is necessary that the elections are held regularly and adequate finances are devolved on these institutions.

To rectify this disfunctioning of the local self-Governing bodies, it is necessary to ensure, by legal provisions analogous to those in Articles 172 and 174 of the Constitution, that elections to and sessions of Zilla Parishads and Municipal Corporations are held regularly and these institutions do not remain superseded for long periods. The power of enacting such a law vests under Entry 5, List II exclusively in the State Legislatures. Nevertheless, uniformity in these aspects of the law throughout the territory of India, is essential. This uniformity can be secured by adopting, in the following order of preference, any of the alternatives given below:—

(i) By laws with respect to this matter made by all the State Legislatures in accordance with a model Bill prepared on the basis of consensus at the forum of Inter-State Council (Inter-Governmental Council, recommended by us to be established under Article 263).

(ii) By a law on this subject made by parliament under Article 252 (i) with the consent of the Legislatures of all the States.

(iii) By a Parliamentary law uniformly applicable throughout India containing provisions analogous to Articles 172 and 174 of the Constitution.

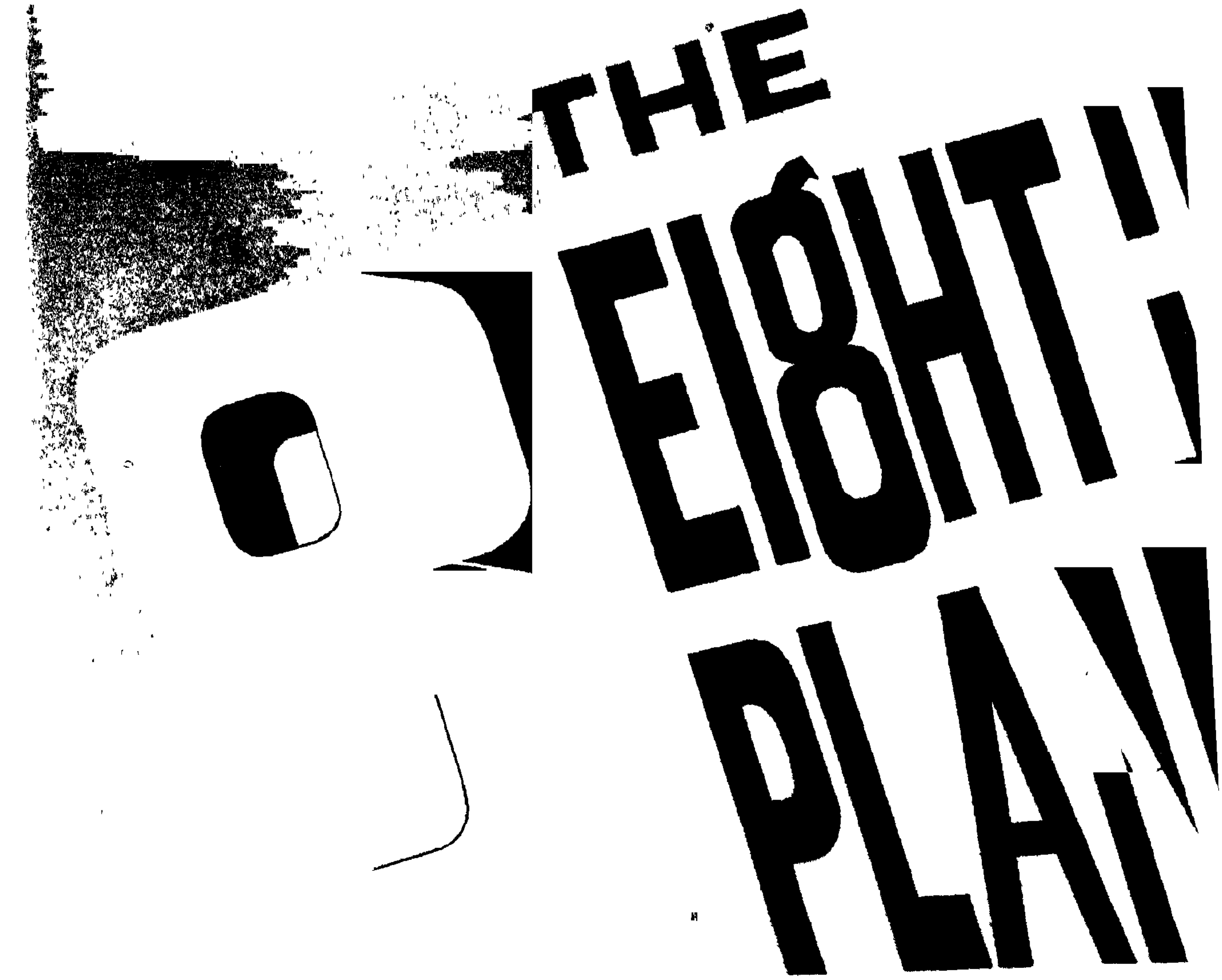
Adoption of alternative (i) or (ii) will not require any amendment of the Constitution. However, as a condition precedent for adopting alternative (iii), those aspects of the matter which are analogous to Articles 172 and 174, will have to be carved out of the ambit of Entry 5, List II and transposed as a separate item to List III.

We recommend that in order to ensure that elections to and sessions of Zilla Parishad and Municipal Corporations are held regularly and these institutions do not remain superseded for long periods, any one of the alternatives, (i), (ii) and (iii) be pursued in order set out above. Recourse to alternatives (iii) may be had only as a last resort when attempts to follow alternatives (i) and (ii) fail, or are otherwise found infeasible. □□□

"A nation may establish a system of free Government but without the spirit of Municipal Institution it cannot have the spirit of liberty."

Alexis de Tocqueville
1805-1859

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THE EIGHTH PLAN

— SOME VIEWS

Next issue · **TRIBAL PLANNING**

Jawahar Rozgar Yojana Social forestry works

That the social forestry works include soil and water conservation measures to ensure the survival of the plants.

that these works are to be taken up on Government and community lands and on road-sides, canal embankments and the sides of the railway lines as also on degraded forest lands.

that planting of all types of fruit and fuel trees can be taken up.

that the plant species are selected by the DRDAs/Village Panchayats taking into account the needs of the area and geoclimatic conditions.

that quick growing fuel, fodder, and small timber trees alongwith the fruit trees of local variety are given preference over the exotic species.

that farmers, particularly the small and marginal farmers are encouraged to raise nurseries in their own fields or backyards.

that tree planting permit holder/tree patta holder is entitled to gather dead branches, take twigs and loppings of the branches, harvest produce such as fruits, flowers, seeds, leaves, tappings etc. and also carry on tree-based activity like bee keeping moga/tuasar silk worm rearing,lac production.

that the farm forestry can be taken on lands belonging to the identified rural poor whose names figure in the IRDP Survey register.

that the non-governmental organisations can be involved in all activities relating to social forestry.

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Ensure full employment

Kamta Prasad

The inter-related tasks of removing poverty, unemployment and backwardness cannot be accomplished within the traditional framework of Indian planning. Attainment of these objectives is possible only by dislodging mere overall growth rate from the list of objectives and making it an instrument for the attainment of other objectives An emphasis on creating a situation of full-employment should form the most important component of the strategy for alleviation of poverty. This would be possible only by raising the labour intensity of the mix of technology adopted for the development projects, says the author He pleads for incorporating 'Right to work' as a fundamental right in the Constitution of India.

EVER SINCE 1951, PLANNING HAS become an integral part of our economic system It has several achievements to its credit And yet, the old enthusiasm is no longer there. The expectation that planning would raise the standards of living of the teeming millions of this country is yet to be realised The planning process itself has become more or less a routine Unmindful of lessons from past experience, our planners continue to harp on the same old tunes The strategy of planning has remained more or less unchanged ever since the Second Five Year Plan. The question is whether we should continue with the same strategy in the Eighth Plan; or is there a need for a change? And if so, in which direction? We deal with these questions in this paper

The challenge and the issues

Any meaningful discussion of the strategy of a plan must start with the statement of its objectives Growth, self-reliance and equity in its various forms have been the major objectives of plannig in India with growth occupying a dominant position and equity a subsidiary one Consequently, while national income has increased, savings rate has gone up and sizeable sector of the economy modernised, poverty and backwardness have persisted and the number of the unemployed has even gone up There has been an increase in food production, but it has been concentrated in few areas and in few crops to the neglect of the others The generation of increased savings too has ben confined mainly to the top 5% to 10% of the households.

Hence the real challenge of planning in India should lie mainly in eradicating poverty, removing backwardness and eliminating unemployment Poverty is often associated with unemployment as well as under-employment and both of these are concentrated mainly in the so-called backward areas Hence, the above mentioned tasks of removing poverty, unemployment/underemployment and backwardness are inter-related; these are in fact the various forms of the basic objective of bringing about a more just and equitable social system.

Can these tasks be accomplished within the traditional framework of Indian planning

characterized by the dominance of the growth objective?

Growth by itself can be a potent instrument for removal of poverty and backwardness only if its rate is very high. The Planning Commission has estimated that a 5.5 per cent growth rate might be needed just to provide employment to the new entrants to the labour force estimated to be increasing at the rate of about 2.5 per cent per annum. (This is based on the average employment elasticity of 0.4 to 0.5. This may go down further on account of future improvement in technology). The growth rate would have to be much higher in order to take care of the huge backlog of the unemployed. Further a PPD document in 1962 had indicated that a growth rate of 7 per cent for about 15 years was necessary to generate enough income to raise the third lowest decile of population above the poverty line. Since then, the number of the poor has gone up substantially even though the proportion might have declined somewhat. In the absence of any other study, the indicators provided by the PPD study may be used as a rough approximation to the present day reality. Given this, a growth rate of higher than 7 per cent would be needed for all the poor to cross the poverty line in about 15 years.

But even a 7 per cent growth rate for the eighth plan seems much beyond the realm of feasibility within the traditional strategy of development It will require raising of power generation from the present level of 216 billion units to around 520 billion units in the eighth plan necessitating additional capacity of 57,000 MW. Additional power capacity to be generated in the 8th Plan is estimated to be around 35,000 to 38,000 MW. which would meet only two thirds of the requirements for a 7 percent growth rate. The only way to reduce this gap would be to follow a less energy intensive strategy of development. This does not seem to be probable.

A 7 per cent growth rate is also unattainable with respect to requirements of savings and investments. Exercises made in the Planning Commission indicate that a 7% growth rate would require an investment rate of 31.5% even if the ICOR is assumed at a low level of 4.5. This rate would be substantially higher than the average rate of investment in the recent past which has been 22.3%. It is only when the ICOR is reduced to 3 5 that a 7% growth rate can be brought about with the present level of savings and investment It is not clear how the ICOR can be lowered significantly without bringing about substantial improvements in the functioning of the governmental agencies for which there is no evidence so far. An alternative strategy could be to change the pattern of investment by importing rather than producing highly capital intensive products like paper, aluminium, some metals, fertilizers and petro-chemicals and by diverting greater resources to capital saving and labour intensive enterprises in general. However, there is no evidence as yet that the authorities are contemplating any change in the traditional composition of investment The ICOR is stated to have been much lower in the Seventh Plan. Perhaps, this may be due to the Seventh Plan's special emphasis on completion of on-going projects which led to a sharp reduction in proportion of investment going to new projects. But such a lowering of the ICOR can at most be a transient phenomenon Such an expediency is not available for ever. Sustainable growth would require launching of new projects which would tend to raise the ICOR not only back to the earlier rate but even higher than that for some time specially as the projects in the pipeline nearing completion and thereby yielding output would be relatively less on account of comparatively lesser number of new projects launched during the Seventh Plan. This consideration, therefore, adds one more difficulty to the task of raising the growth rate.

Given the infeasibility of very high growth rates, removal of poverty, unemployment and backwardness can be brought about only by assigning higher priority to the equity related objectives in the real sense This would involve provision of required manpower, funds and other resources on a priority basis and would imply a massive redeployment of resources However, such a re-ordering of objectives within the conventional framework of Indian planning is not easy to be brought about in actual practice There has always been a tendency for the growth objective to push the equity related objectives far behind even though the plan purports to do the contrary The reasons are obvious Politically as well as administratively it is easier to attain growth than to bring about equity Overall growth is in harmony with the interest of more powerful and resourceful sections since it permits them to grow faster than others. Besides, growth fits in easily with the age old efficiency criterion of functioning of individual enterprises, in both public and private sectors

Dislodge growth as an objective

Not much purpose, therefore, is going to be served by following the pattern of the earlier Five Year Plans A **breakthrough in the attainment of equity related objectives can take place only by dislodging mere overall growth from the list of objectives and making it a part of the strategy for the attainment of other objectives.** This is as it should have been from the very beginning. Growth is important not for its own sake but mainly as an instrument for the attainment of other objectives having a more direct bearing on the welfare of the people In its transformed role as a means, growth would be specific to promotion of employment, development of backward areas and eradication of poverty. On the

other hand, growth which is not so related or which is geared to meeting the unnecessary requirements of the rich minority alone should find no justification. In this way, the focus would shift from overall growth to the content of growth The overall growth will result from or be derived from sectoral or regional growth rates. These growth rates should obviously be so fixed as to meet the test of consistency.

Resource allocation

How to promote the growth of backward areas and poor people ? First and foremost, this would require provision of adequte manpower, funds and other resources on a priority basis. Backwardness is mainly due to environmental factors like drought and flood and rugged terrain, decades of relative neglect in terms of human resource development and inadequate infrastructure. These require adequate investments in appropriate technology and social and economic infrastructure for these areas Elimination of poverty would further require creation of opportunities for remunerative employment (including both self and wage employment) on a scale commensurate with the extent of the problem All these require funds Pious declarations alone are not enough.

The approach in the past has been one of running a plethora of schemes each with a small outlay, restricted coverage and limited intensity as compared to the dimension of the problem The outlay on a vast array of programmes which may benefit the poor (including the so-called poverty alleviation programmes) has remained a small percentage (about 9%) of the total plan outlay during the Sixth and Seventh plans which are claimed to lay substantially greater emphasis on poverty alleviation The proportion used to be even much lower in the earlier plans (between 3 to 5 per cent). Such a situation is the direct consequence of the capital intensive model of development followed so far, resulting in a residual approach to the allocation of funds for the programmes dealing with poverty alleviation and employment generation. This should be changed The focus on removal of poverty, unemployment (including underemployment) and backwardness would require a massive change in the pattern of deployment of resources. The basic point to note is that the scale of effort in terms of alloction of resources and building up of administrative and technical support should be commensurate with the extent of the problem. Funds needed for the alleviation of poverty and development of the poor and backward areas should be the first change on the State exchequer and not the last one as has been the cae so far. This would amount to a complete reversal of the prevailing practices.

According to estimates made by me the objective of poverty alleviation during 8th Plan would require a minimum investment of Rs. 60,000 crores during the 8th Plan for programmes directly related to poverty alleviation like the IRDP and JRY. This would be about three times of the similar outlay for the Seventh Plan Another Rs. 60,000 crores may be set apart for creating basic infrastructure for backward areas. These figures imply a substantial stepping up as compared to what are porovided in the Seventh Plan. But the amount is not beyond the capability of the government to provide It amounts to about 20 per cent of the investment likely to be made in the 8th Plan. Since the poor constitute roughly about 40% of the population, it is by no means unreasonable to set apart at least 20% of outlay for their benefit. Fairness demands more. But that, perhaps, may not be feasible immediately. Hence, we have gone by the criterion of the minimum.

Given the overall shortage of resources, this substantial stepping up in outlay for the poor would entail a diversion of resources from other fields and sectors to programmes of poverty alleviation. This requires a drastic re-orientation of priorities and restricting the undue growth of vested interests well entrenched in different departments and sections of the government itself. If the government cannot do this, then it can better forget all about poverty alleviation

Strengthen planning and implementation machinery

Finance by itself is not enough. Proper utilisation of funds is equally important. Hence, there is need for strengthening the lower level planning and implementation machinery for improving the quality of schemes, the delivery and receiving systems and for reducing the scope for leakages. This requires taking up several measures for decentralisation of planning in the real sense. The current proposal to strengthen the panchayats is a welcome development. More in this connection, however, needs to be done than what is being planned to be attempted.

To an extent, this aspect is related to the resources aspect discussed above How can the state governments set up a strong planning and implementation machinery if the volume of work to be undertaken by that machinery remains at a low level on account of low outlay ?

Towards full employment

Given the limited scope for transfer of land, the economic condition of the poor would be determined primarily by the type and the duration of employment they get and the real wage rate that they are paid. An emphasis on creating employment opportunities (including self-employment) should, therefore, form the most important component of the strategy for alleviation of poverty in India. And yet, provision of

remunerative jobs to all has never been an objective of national policy in India. The much publicised employment objective of the national planning has been concerned merely with an expansion of employment opportunities including those which are not remunerative. This limited approach, however, has not succeeded in tackling the unemployment problem which continues to be as colossal and pervasive as before.

Hence, the crux of the matter is how to bring about full employment. For this purpose, it is important to note some relevant facts. First, there is a huge backlog of unemployment Second, there would be annual additions to the labour force which is growing at the rate of 2.5 per cent. Third, the employment elasticity of output in seventies and early eighties has been 0.4 to 0.5 and may be even lower now on account of the gradual decline in labour intensity. Hence, the 4 to 5 per cent rate of growth of output expected during the 8th Plan can bring about full employment only if the overall capital labour ratio is tilted adequately in favour of labour. This requires that the need to provide jobs to all should be the major factor affecting decisions related to technology There is, however, no incentive or obligation for the administration to do so Therefore, the task is to devise a system which induces or compels administration at all levels to pursue this objective as vigorously as possible **A fundamental change in the prevailing casual approach of the administration at different levels towards creating employment opportunities is possible only when a Constitutional obligation is imposed on the government to provide jobs to all by inserting Right to Work as a fundamental right in the Constitution of India.** This should be followed by creation of an appropriate institutional machinery at the district and block levels. The choice of technology consistant with both productivity and employment objectives requires a degree of sophistication in planning which has been lacking so far This gap needs to be bridged.

Right to work must, of course, be accompanied by Japanese type work culture so as to ensure that the productivity of labour is high enough to generate a surplus for growth Government should have an obligation to provide jobs only to those who are willing to put in requisite effort at the prescribed wage rates No employment guarantee scheme can succeed if it does not provide incentives for hard work and disincentives against laziness and sloth

The shift towards more labour-intensive techniques does not mean that the techniques of production of every commodity should become more labour-intensive. Techniques may continue to remain capital intensive in power, fertilizer etc. What is implied is that the overall mix of technology would be more labour intensive. Further, this shift does not rule out gradual increase in overall capital intensity which may be needed for raising productivity and lowering costs. But this rise in overall capital intensity should take place after full employment has been attained and not much before that as has been the Indian experience so far

Employment oriented planning through labour intensive technology would imply taking up of appropriate measures on adequate scale for bringing about technological upgradation, creating training facilities, building more efficient system for supply of inputs, arranging for better marketing and providing policy support to prevent unhealthy competition from large scale units This would also imply appropriate selection of product-mix.

Finally maintenance of full employment without subsequent lowering of capital intensity would be possible only if the rate of growth of population is lower than the rate of growth of output It is, therefore, necessary to underline the importance of population planning in the context of employment-oriented planning Perhaps, it may not be unjustified to lay down a rule that only those who adhere to norms of planned family would be eligible for guaranteed employment

Summing up

The inter-related tasks of removing poverty, unemployment and backwardness can not be accomplished within the traditional framework of Indian planning characterized by the dominance of the growth objective A breakthrough in this can take place only by dislodging mere overall growth rate from the list of objectives and making it an instrument for the attainment of other objectives Overall growth should be derived from growth rates fixed specifically for backward areas and poor people For this purpose, adequate manpower, funds and other resources should be set apart for equity related objectives on a priority basis This would imply a complete reversal of the prevailing practices

An emphasis on creating a situation of full employment should form the most important component of the strategy for alleviation of poverty This would be possible only by raising the labour intensity of the mix of technology adopted for developmental projects Right to work has to be given due recognition so as to compel the authorities to give the needed consideration to the employment objective while formulating projects and programmes This should be accompanied by other supplementary measures like technological upgradation, skill formation and improvement, strengthening delivery and marketing systems etc At the same time adequate measures for long term objectives like improvement of work culture and population planning need to be taken □ □ □

Reduce absolute poverty

Dr. G. Thimmaiah

Reduction of absolute poverty should be the single most important objective of the development strategy of Eighth Plan. Though poverty is associated with employment, development programmes will have to be designed in such a way as to generate wage employment as well as self employment opportunities with guaranteed minimum income. The strategy requires not merely targetted increase in GDP and per capita GDP but also an appropriate mix of developmental strategies and programmes to ensure percolation of the fruits of development to the poor. Besides, exercising care in allocating resources, reducing capital-output ratio, reducing inter-state as well as intra-state regional disparities are the few other strategies that should guide the Eighth Plan; says the author.

INDIA HAS ACQUIRED FOUR DECADES of experience in formulating and implementing nation-wide public plans. This experience is valuable because of the fact that the public sector planning process has been operating within the democratic political frame work Even so, Indian experiment in planning has not received unqualified praise for various reasons.

Starting of a new Five-Year Plan gives an opportunity for the planners to take stock of the past achievements as also the strengths and weaknesses of the economy. However, we do not see much enthusiasm about the Eighth Plan even among intellectuals. The Five Year Plans have failed to create common man's confidence in solving the country's economic problems. While the signs of "plan weariness" are showing up in the cynicism of the ordinary people, the administrative machinery which has shouldered the unenviable task of implementing seven Five Year Plans and four Annual Plans is exhibiting the symptoms of "development fatigue". At this momentous time, the country is watching the planners as to how they are going to create fresh enthusiasm and interest in the Eighth Five Year Plan. This is particularly so in the context of gradual dismantling of regimentation and central control of planning process in the traditionally planned economies like USSR and China.

It appears that decentralisation of planning process has come to gain its legitimacy But decentralised planning process by itself is not sufficient to realise the goals of Five Year Plans There is also some dispassionate thinking on the future role of public sector in solving the country's economic problems All these changes in people's outlook have come about as a sort of lessons of past development experience.

In the light of these changes in people's outlook, the planners will have to formulate the approach to the eighth Five Year Plan and initiate national debate on the objectives, strategies and programmes which will have to be pursued in the Eighth Five Year Plan period The task is made more difficult at the state level because of the resource crunch and growing political populism both of which are not conducive for effective planning.

Objectives of Eighth Five Year Plan

In the past the conventional macro approach to formulation of Five Year Plans identified the macro objectives of increasing the national income and per capita income. Besides, the Five Year Plans used to have multiple objectives, even though most of them were derived from the macro objectives. As a result the national as also the state level Five Year Plans focused more on macro objectives and also listed multiple objectives without examining their consistency. At the state level, there has been wholesale imitation of the national approach and objectives.

The Eighth Five Year Plan of the country should make some departure from this conventional approach. The Eighth Five Year Plan should identify one or two core objectives which will aim at satisfying certain essential basic needs of the people and at the same time go to develop the economy so as to reach certain long-term goals For instance, the Eighth Five Year Plan should aim at reducing the percentage of people below poverty line to around 20% by the terminal year of Eighth Plan, (1995). In order to achieve this objective of substantially reducing the absolute poverty, the economy will have to generate additional income Assuming that it will be possible to formulate appropriate policies and programmes to make this additional income to reach the people below poverty line, the Eighth Five Year Plan will have to achieve 6% annual compound growth rate of GDP. In other words, the country will have to aim at a reasonably higher growth rate in order to sustain the existing level of income as also to reduce the percentage of people below poverty line to 20 per cent Hopefully, with a population growth rate of 1 7 to 2 per cent, (compound) per annum, this will give the per capita income, (compound), growth of about 3.3 to 4 per annum at 1989-90 prices.

The Eighth Five Year Plan should focus the attention on the reduction of absolute poverty as the single most important objective of development strategy because removal of economic deprivation of the people is the final goal of development plans It is also necessary to increase GDP and per capita GDP for achieving the goal of reduction of absolute poverty. Earlier plans used to determine first the feasible rate of growth of GDP and per capita GDP and then used to treat the reduction of poverty as a residuary objective But the Eighth Five Year Plan should reverse their order by treating the objective of reduction of poverty as the top most priority. Further, this goal should be integrated into the objective of increasing the GDP through various output producing and income generating programmes.

It is true that the objectives of reducing poverty has always been associated with increasing employment opportunities for the poor people. This is also based on the assumption that such employment will ensure the required income for poor people to enable them to move above the poverty line. But experience has shown that in a semi-capitalistic economy operating in a semi-feudal social set-up, poor people may be fully employed but still unable to earn enough income to support their dependents so as to move them above the poverty line This paradox is explained by the low wages in the unorganised sector. Even transfer payments from the government and loan assistance from the banks will not be adequate for some sections of the poor people to make them economically viable. **In other words, providing employment is a necessary condition for lifting the people above the poverty line, but not a sufficient condition.** Therefore, the development programmes will have to be designed in such a way as to properly identify the poor and bring them into the mainstream of development process. This requires two basic steps: First, the development programmes should generate wage employment as well as self-employment opportunities with guaranteed minimum income. Second, corresponding to the generation of such income, development plans should create abundance of basic goods like foodgrains, so that the essential commodities are readily available for consumption by the poor. In addition to these, certain social services like primary education and primary health facilities should be made easily accessible to the poor people to improve the quality of life. The Eighth Five Year Plan should formulate appropriate plan programmes to ensure these pre-requisities.

Such development strategy requires not merely targetted increase in GDP and per-capita GDP but also an appropriate mix of developmental strategies and programmes to ensure percolation of the fruits of development to the poor This would automatically require not merely the strategies and programmes intended to increase in GDP and per-capita GDP but also proper mechanisms for distribution of the increased income among different sections of the society spread over different regions The required pattern of distribution mechanism cannot be created only through welfare measures It requires productive employment opportunities with guaranteed wage rate Besides, the enterprising among the poor should be guided through appropriate training and financially assisted to take up self-employment schemes

Strategies for the Eighth Plan

Planning involves prudent allocation of scarce resources to rationally chosen priority sectors. Though Indian planning strategy started with such allocation strategy, the planning regime lost sight of the necessity of rational allocation of resources This has been partly encouraged by the increased level of

savings in the late 1960s and early 1970s and partly forced by unimpressive impact of plan programmes on poverty. Consequently, in an attempt to integrate equity objective, redistributive programmes were designed and made an integral part of Five Year Plans Thus anti-poverty programmes have become an integral part of Five Year Plans. Subsequently, welfare programmes emerged mostly at the state level. Today as a cumulative consequence of such mixing of investment programmes with anti-poverty programmes many welfare programmes have come to be included in the plan programmes. **Political compulsions have forced the planners to include all possible programmes in the Five Year Plans and as a consequence, the core programmes have come to face paucity of funds.** This situation needs immediate attention as otherwise it is likely that the country may continue to waste its scarce resources without realising the benefits of development. Therefore, the first step in the formulation of the overall strategy of Eighth Plan is to do away with all kinds of programmes in the Five Year Plans and decide about certain core sectors on which the plan should concentrate. Once the core sectors are chosen, the required funds should be allocated according to the specific targets of the core sectors. All other programmes may be accommodated as and when resources become available or be treated as non-plan programmes. Once the plan outlay for core sectors is decided, any resource crunch in the course of plan implementation should affect non-plan outlay and not plan outlay This should be the main strategy of planning in the Eighth plan period.

Another overall **strategy** is related to allocation of funds even within the core sectors themselves. Within the chosen core sectors like irrigation, power, etc, projects should be prioritised and adequate funds should be allotted for their timely completion. What is happening now is that limited funds allotted to core sectors are distributed thinly among too many projects. The result is that most of the projects remain incomplete for want of adequate funds and of required efforts of the implementing departments Though in the recent past an attempt has been made to get over this problem by approving atleast one-third of the project cost in one year by including in the budget, the actual amount released has not been commensurate with the original plan requirements Consequently, the purpose of concentrating on core sectors' development has not been served owing to inappropriate intra-sectoral allocation of funds. This has resulted in delay in the completion and cost escalation as also prolonged waiting for the benefits of the projects to flow. Therefore, in future, step-by-step approach may be followed in the implementation of plan programmes. Planners should allot adequate funds for the completion of prioritised projects first and other projects should be taken up only after completion of the earlier chosen projects unless additional funds become available for taking up other projects.

The **third** overall strategy should be to reduce the capital-output ratio with a view to saving the scarce resources and thereby improving productivity. This could be ensured by timely completion of the proposed projects and reducing delay in completion of the ongoing projects. Besides, full capacity utilisation of the completed projects should be attempted so as to exploit the potential benefits to the hilt. Further, it will also require timely identification of the bolltenecks and initiating necessary steps to remove such bottle-necks. Though all these appear very obvious, in the past they were not attempted in an integrated way. The present resource crunch should compel planners to attempt these three steps together for reducing the capital-output ratio.

The **fourth** overall strategy should be to reduce inter-state as well as intra-state regional disparities. At the time of reorganisation of the states, there were marked differences in the development of infrastructures between various regions in most of the states. After re-organisation, the development strategies adopted in the Five Year Plans have enabled the backward regions to catch up with developed regions. A variety of anti-poverty programmes, minimum needs programmes and industrial policy and also greater emphasis on providing irrigational facilities to backward regions have helped hasten development process in backward regions The gap is expected to go down further during the next two Five Year Plans. Even so, further efforts should be made to hasten the pace of overall development of backward regions in each state. Besides, special attention will have to be paid to establish inter-regional links in order to ensure greater mobility of natural and human resources between regions within the states.

The above outlined strategies of development are intended to achieve the overall perspectives of development. Invariably they include some sectoral strategies also This is mainly because in the ultimate analysis the distinction between overall strategies and sectoral strategies gets blurred. The sectoral strategies involve a familiar pattern which has been evolved over the years. No doubt, sectoral strategies are an essential step for the purpose of implementing the developmental programmes and schemes through the traditional administrative machinery which is compartmentalised into various departments Consequently, the planning process has always followed sectoral approach in the past. This was inevitable for implementing the various programmes and schemes through the departmentally available machinery. But this approach developed a tendency to continue the same schemes year after year even

after they had outlived their utility. It also developed a fragmented view rather than a holistic view of development even at the grass roots level. The sectoral outlays came to be determined by historical trends rather than by the objectives of the plan. Even within each sector the pressure groups were so developed as to corner the sectorally available funds for those areas where huge money was involved without reference to the distribution of benefits and their overall contribution to the economy. Therefore, in the eighth Five Year Plan though sectoral strategies cannot be totally discontinued, there is need for intergrating and taking an overall view of developmental projects atleast at the grass roots level. Since some state governments like Karnataka have created Zilla Parishads and Mandal Panchayats at the local level which are entrusted with the task of undertaking certain local development programmes, it would be more appropriate to have an integrated holistic approach of development for area development at local level. Second, **it is not necessary that all the programmes and schemes should be implemented in all parts of the country. There should be some freedom for the states to vary programmes and schemes according to their needs.** This would give them the required autonomy in choosing the priorities within the spheres of development assigned to them and this will enable them to bridge the gap that has arisen in various spheres of infrastructure development as a result of the past policy of uniform allocation of sectoral programmes and schemes.

At present, the anti-poverty programmes and welfare programmes are becoming very prominent in the plan outlay. Though the outlay on the IRDP has been shared by the Central government, the state govenments have introduced a wide variety of social welfare programmes like subsidised rice schemes, mid-day meal schemes, distribution of sarees and dhotis, free text books for school children, old age pension, widow pension etc. Some of these programmes which were started initially as non-plan programmes have been converted into plan programmes. Consequently, the outlay on plan programmes has come to be reduced. There is need, therefore, at this stage to review the antipoverty and welfare programmes. Within the IRDP, it is better to increase the amount of assistance to the beneficiaries and concentrate on viable beneficiaries to lift them above poverty line. It is better to trransfer ISB under IRDP to small scale industries development programme. It is also desirable to convert TRYSEM into rural enterpreneurship development programme For the rest of the poor, wage employment becomes inevitable.

There is need for reviewing all the welfare programmes undertaken by the state governments. Some of the earlier programmes have been indirectly taken over by the Central government. There is no need for implementing both the schemes. Whatever welfare schemes that the state governments may like to retain may be converted into non-plan programmes. Their scope and the level of assistance can be varied depending upon additional resources available for undertaking them. The outlay on these welfare programmes should not affect the plan outlay.

In the past, over-centralisation of decision relating to priorities, selection of schemes and programmes and detailed procedures of their implementation led to suppression of local initiative and even frustration. This was partly **because of increasing number of central sector and centrally sponsored schemes. Therefore, the Planning Commission was partly responsible for ineffective implementation of plan programmes by the states.** Solution to this lies in drastic cut in the number of centrally sponsored schemes during the Eighth Five Year Plan period. This view has been endorsed by the Sarkaria Commission which has recommended that the centrally sponsored schemes should be of national importance and should be in the nature of pilot projects. The Commission has also recommended that such schemes should not be introduced in the middle of the plan as far as possible. It is hoped that the Planning Commission will implement these long overdue recommendations. It would be better to assist the state governments with 100 per cent grants for implementing the centrally sponsored schemes Such total financial assistance will act as an incentive for proper implementation.

The Planning Commission should effectively involve the state Planning Departments in the choice of priorities, programmes and schemes so that they will have emotional commitment for their effective implementation In fact, the Planning Commission should have invited the views of the state governments before deciding the proposed rate of growth of GDP during the Eighth Plan period.

The limits of centralisation have been reached in producing innovative ideas, choice of priorities and formulation of appropriate strategies The present situation provides an excellent opportunity for initiating decentralised planning process based on the initiative of the state governments This would imply increasing the number of centres of decision making and also the number of policy initiators Because it is intended to bring people face-to-face with decision makers as far as possible so that the long cherished goal of encouraging people's participation in the planning process will be realised in the near future. These are the strategies which should guide the Eighth Five Year Plan of the country.□ □ □

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Re-orient planning strategy

Dr. B.B. Bhattacharya

After analysing the endemic problems of the Indian economy, the author says that the economy is in a better condition so far as income and output growth is concerned, whereas the condition is hardly encouraging on poverty, employment; inflation and debt problems. On balance, it appears that growth and distribution are not moving in the same direction. Hence the Eighth Plan should aim for a structural readjustment in the growth process rather than maximising growth of output.

THE INDIAN ECONOMY ON THE EVE of the Eighth Five Year Plan appears to be in a resilient mood The Planning Commission according to the latest information available in the press, has fixed the target growth rate of gross domestic product during the Eighth Plan period at 6 per cent per annum Agricultural output is targeted to grow at 4 per cent per annum and industrial output at 9 per cent Exports growth rate is fixed in volume terms at 11 per cent per annum, which if materialised, would not only enable imports of vital raw materials and capital goods but would also substantially mitigate balance of payments problem in future. Gross domestic saving rate and investment rate are fixed at about 23 and 25 per cent respectively. More important, planners are confident about an improvement in productivity and efficiency such that the incremental capital - output ratio is expected to decline from 4.30 at the end of the Seventh Plan to 4.15 at the end of the Eighth Plan.

The planners derive their confidence from the relatively better growth rates of industry and gross domestic product in the eighties, and in particular during the Seventh Plan period, over earlier years. The long-run growth rate of the economy during the first 30 years of planning was about 3.6 per cent per annum In the Sixth Five Year Plan the overall growth rate was 5.1 Even if we adjust it for the abnormal base year (1979-80) it still works out to be more than 4 per cent per annum In the first 4 years of the Seventh Plan the overall growth rate may turn out to be more than 5 per cent, and according to Planning Commission it may become about 5 4 per cent for all 5 years; which means, for the first time after the First Five Year Plan the actual growth rate may exceed the target growth rate of the Plan. Industrial output is now growing more or less steadily at about 8 per cent. Agricultural output in the first 3 years has not grown as per expectation But the resilience of agriculture in a severe drought year of 1987-88 and subsequent recovery has again restored planner's confidence in agriculture, what is more important is that the recent growth in agriculture has been due almost entirely to increase in productivity rather than increase in cultivated area. The saving and investment rates which have declined in the Sixth as compared to the Fifth Plan have shown moderate recovery during the Seventh Plan **The saving rate, and in particular the household saving rate, in India has already reached a very high level, and no dramatic improvement in this can be expected in near future.** The planners therefore have to depend more on increase in efficiency and productivity for a higher growth rate in the Eighth Plan. The balance of payments however continue to be a serious problem, and the country's foreign exchange stock has once again reached a critical.low level.

Unsolved Problems

While the growth scenario appears to be reasonably satisfactory and better than what it was, say a decade back certain endemic problems of the economy continue to blacken the picture. First of all,

agricultural production, and in particular food production, continues to grow only marginally above the population growth rate, which depsite all efforts and enormous public expenditure on family planning remains well above 2 per cent per annum. Since food remains the single most important item of consumption, which for middle and lower income groups constitute above 60 per cent of household expenditure, consumption and standard of living of poorer households have remained virtually same in spite of a better performance of the economy in the eighties. In fact the per capita net availability of cereals per day in the eighties has yet to reach the peak attained in mid-sixties. The number of people below the poverty line as a ratio of total population, according to the most optimistic estimation, is even now well above 30 per cent, and perhaps much higher. The incidence of poverty in rural areas of Central and Eastern region is extremely high.

Next to poverty, unemployment is the most serious problem. Labour force is now estimated to be growing at about 2.5 per cent per annum; as against this productive employment is growing only at 2 per cent per annum The number of unemployed persons is therefore continuously rising, and unless something is done to reverse this trend it may soon become a serious socio-political problem With urban population rising faster than total population the number of job seekers in urban areas is now rising rapidly. Along with urbanization there is increasing pressure on urban housing, sanitation, transport, water supply etc. All these would require a substantial amount of public resources, which is becoming increasingly scarce over time, partly because of incresing demand for public goods and partly because of sluggish growth of government tax and non-tax current revenue

A disturbing feature of current growth scenario is that employment in organised sector is rising much slower than income and output in this sector. Ideally employment in organised sector should rise faster than labour force in this sector so that it can draw away surplus labour from the unorganised sector Employment in the public sector has increased by about 19.2 per cent between 1980 and 1987, or by about 2.6 per cent per annum. During the same period employment in organised private sector has increased by only 2 per cent, or by about 0.25 per cent per annum. The aggregate employment in the organised sector has increased by about 14 per cent or by about 1.8 per cent per annum, which is well below the growth rate of labour force in organised sector. Manufacturing output in the eighties has been increasing by about 8 per cent per annum, as against this manufacturing employment has been increasing by about 0.9 per cent per annum, or the elasticity of manufacturing employment with respect to manufacturing out-put is about 0.1 Private employment in manufacturing has actually declined steadily since 1982.

Another major disturbing feature of current economic situation is the increasing debt financing of public expenditure Internal and external debt of central and state governments together now account for nearly 75 per cent of gross domestic product. Debt financing is now done not only for government investment expenditure but also for government current expenditure With rising public debt the interest burden on debt is also increasing rapidly and in the process eroding resources for plan Debt financing of current expenditure is also going to leave a burden on the future generations in the form of interest and repayment of debt Although as of now there is no danger of debt trap in India the adverse consequences of debt financing on both current an d future income growth has already become too significant to be ignored.

The picture that emerges from this is that while the economy is in a better condition so far as income and output growth is concerned, it is hardly encouraging on poverty, employment, inflation and debt problimes. On balance it appears that growth and distribution are not moving in the same direction The Eighth Five Year Plan should therefore aim for a structural readjustment in the growth process rather than maximising growth of output as such.

Productivity

Until now, planning strategy has concentrated more on raising overall investment rate (and consequently saving rate) than improving productivity of investment. Now that saving rate has risen to a fairly high level - above 20 per cent - any further improvement in it is going to be increasingly difficult. The further impetus to growth may therefore have to come from either an improvement in productivity of investment or allowing larger net capital inflow

It is now claimed that the incremental capital-output ratio has declined during the Seventh Plan. It is difficult to verify this from published data, lagged by a few years. If it has happened then it is a healthy sign. But a lot more have to be done in the Eighth Plan period to achieve a macro growth target of 6 per cent.

There is a lot of scope to improve productivity and efficiency of capital invested in the public sector. In the recent years there has been an increasing trend in public investment in elite consumption goods. Many of these public sector units - hotels, tourist agencies etc. - are not earning any surplus. There is no social justification for public investment in hotels, tourism etc., except in a special case. These investments should be cut and many of the public sector hotels etc.

should be privatised. Secondly, public investment in sick mills particularly in jute, sugar, cotton textile and alike consumer goods - has very little social justification. The social benefit of retaining employment in these units are less than cost of drain on public sector resources on account of these units. Most of them continue to suffer losses, besides raising the overall cost structure in the economy. There is no harm in selective privatisation of some of thse units (they were never part of original public sector investment startegy devised during the Second Five Year Plan) and even closing Thirdly, maintenance of existing projects is often considered less important than starting new projects. Except when the old unit is obsolete in technology, the investment requirement for maintenance should be given more importance than starting new plant. Fourthly, public sector investment is often spread too thinly in too many projects. In the Eighth Plan there should be greater stress on consolidation than expansion of public sector.

There is a lot of inefficiency in private sector also. In the existing industrial culture, no industry is allowed to die howsoever obsolete it may have become. The cost structure in the country is therefore too high, which is protected partly by oligopolitic structure partly by price control mechanism, and partly by lack of competition from abroad Unless these policies are suitably modified there is no hope for modernisation and improvement of technology in industries

Plan financing

Financing of public expenditure is becoming increasingly distorted. In the past, a portion of government tax and non-tax current revenue was saved for financing public investment The saving of government administration has declined over the years and in the recent years it has become negative, which means that the government is now borrowing not only to finance its investment expenditure but also current expenditure. Plan outlay is now practically entirely financed through borrowing. In the recent years public sector saving (including depreciation and retained earnings of public entrprises) has contributed only about 15 per cent of public sector investment. The rest has come from borrowings from various sources: households, banks, financial institutions and abroad.

There is a critical limit for borrowing. Beyond this limit borrowings lead to debt trap, inflation and other problems. Although we are yet to enter into debt trap there are some danger signals regarding both internal and external borrowings Of the two, external borrowings is much more dangerous than internal borrowings. **In the Eighth Plan therefore a definite attempt should be made to restrict external borrowings to the bare minimum necessary to finance imports of crucial raw materials and capital goods.**

Internal borrowing have also become critical. A good portion of it is in monitised form, signaling danger of potential inflation. So long as public investment yields positive benefit the inflationary pressure can be contained within limit. But if deficit is incurred in revenue account then it not only leads to inflation but also affects the welfare of future generation through inter-generational transfer of tax burden.

Tax-GDP ratio is virtually stagnant during the last decade. Indirect tax - GDP ratio has increased, mainly on account of burgeoning customs revenue, but direct tax- GDP ratio has fallen. The effective tax rate on middle and rich income groups now is less than what it was before, say a decade back. This has not only made tax structure regressive but has also eroded resource base for public investment While tax ratio has remained more or less same, public expenditure, particularly non-plan expenditure- GDP ratio has risen steadily. Unless this trend is reversed in the coming years the plan financing would be further distorted, perhaps beyond a point of normal recovery

Curb on consumerism

In the first 3 decades of planning the general philosophy was that the conspicuous consumption of the middle and the rich must wait until a minimum standard of living is attained for the poor Production and consumption of luxury consumption goods - cars, refrigerators, TV, Camera, five star hotels etc. - were therefore discouraged through licensing, controls and taxation policies. Imports were heavily taxed if not prohibited In the eighties both production and consumption of luxury consumption goods are liberalised, including imports **A significant proportion of households saving is now diverted to purchase of these luxury consumption goods. This has not only affected adversely the household saving rate but has also increased disparity in the consumption between rich and poor.** The very essence of socialistic plannig is distorted by this The Eighth Plan should once again discourage production and consumption of these luxury goods through production controls and taxation This would also ease plan financing.

Future scenario

It is difficult to conjecture at this stage the effect of the Eighth Plan strategy (which is not yet known publicly) on the economy But if it continues to be similar to the strategy pursued in the recent years then there is a danger of further widening gap between rich and poor and income and employment growth. If present debt financing policy is pursued then inflation and other adverse effects of it carr not be kept at bay for long.□ □ □

Make it a model plan

Dr. Badar A. Iqbal

In order to make the eighth plan a model plan, a new set of basic policies, programmes and schemes must be formulated, launched and executed in true spirit. Decisions should be purely on merit basis rather than on political as well as self-interset basis. The author suggests various ways to achieve the anticipated growth rate, various ways to tackle the problems of over-population, unemployment and poverty. Economisation of resources, higher efficiency and productivity, better utilisation of existing potential will go a long way in making the eighth plan a successful venture, says the author.

SINCE INDEPENDENCE, INDIA HAS witnessed more than four decades of planning for bringing about a structural transformation of the Indian economy so as to attain a high and sustained rate of growth, a progressive improvement in the standard of living of the people leading to eradication of the problems of poverty, unemployment and building up of a strong and self-reliant egalitarian society. However, we are still confronted with the problems of over-population, unemployment, poverty and backwardness, inflation, regional imbalances, paucity of resourcs etc. which are formidable. Yet we face them boldly to explore their solutions which are not readily available. Hence, it is high time and imperative to formulate an effective, efficient and result-oriented strategy to tackle them on war footing during the 8th plan period.

Rate of growth

India which comes under the category of low income, keeping and attaining higher growth rate has been the compulsion for attaining the desired improvement in the standard of living of the masses. Hence, higher growth rate has always remained in focus as the main objective of Indian Five Year Plans. In Seventh Five Year Plan, 5 per cent growth rate was targeted which was slightly higher than what has been attained during the past decade. Earlier, Planning Commission was excercising on three alternative models for achieving a growth rate of 5.5 per cent, 6 per cent and 7 per cent. According to the available information, the Planning Commission has fixed 6 per cent growth target for the 8th Plan. This means a lot of efforts would be needed for making the said target more realistic and meaningful Efforts should be to bring an overall improvement in the performance of various sectors of the economy, particularly agricultural, service, infrastructure and external sectors. Added to this, existing resources (natural and financial) and their potential must be exploited fully Proper coordination and effective implementation of various schemes launched by the Government are of paramount significance The following are the steps to be taken in 8th Plan to make 6 per cent target more viable and realistic.

- to make special Foodgrains Production Programme more result oriented;
- to improve acreage cultivated for foodgrains production,
- to bring adequate improvement in average productivity per hectare of cultivated land,
- to raise the use of fertilisers and pesticides,
- to increase the use of irrigation and also to raise the existing level of irrigation,
- to undertake intenstive and extensive demonstration among the masses in rural areas for using inputs,
- to raise allocation of resources for agricultural development scheme,

- to create infrastructure and to build cold storage on an increasing scale,
- to improve the existing potential of conventional and non-convential energy,
- to improve comunication facilities among the rural masses,
- to expand ports and railway facilities to core sectors,
- to construct roads in rural areas on an increasing scale,
- to attain higher efficiency, economy, productivity, better utilisation of existing capacity,
- to improve the efficiency and productivity of labour and capital,
- to provide conducive environment to the labour force and to generate cordial relationship between labour and management particularly in public sector,
- to develop work culture or work ethics among the workers and to make them realise that they should "live for work"'
- to interact social objectives with national objectives,
- to economise the human resources and to avoid colossal waste of human resources,
- to utilise natural resources and financial resources to a optimum level as well as effectively and efficiently,
- to reduce the Government dissavings and to avoid unnecessary and wasteful Government expenditure,
- to improve saving and investment rate, and
- to raise tax to GDP ratio for raising resources efforts.

Over-population

Indian has been passing through the phase of population explosion Increasing population has been one of the major constraints hampering India's overall development process Since the beginning of the planning era, a lot of schemes have been formulated and launched to control the population growth rate However, any impressive breakthrough has not been achieved in this direction and desired goods have not been delivered to the nation.

India which is the second largest populated nation in the world after China has been facing a high degree of pressure of population on land. This state of affairs can be testified from the fact that India's national income has been even less than 2 per cent of the total world income As a result, the propensity to consumption and savings have been affected to an alarming extent. Improvement in the level of consumption is a must for bringing desired improvement in the "quality of life" of the masses. This could not be conceived without bringing a desired increase in the income of the people and the same could not be possible without reducing population growth rate. Similarly, higher population growth rate leads to a decline in the availability of medical facilities to the masses on the one hand and on the other hand increases the dangerous epedemics among the masses. Likewise, during the last more than four decades of planning, there has not been any visible improvement in the nutrition level in India particularly in rural India. This state of affairs has made the problem more and more complicated. The over-population has created a lot of problems for the states to provide drinking water in the remote areas of the country This means that **India has been passing through a critical juncture of population explosion. This trend has changed the complexion of cities and many cities in India are dying and are also known as "cities of slums".**

Very recently, the PHD Chamber of Commerce and Industry has apprehended that by the turn of the century, the country's growth targets will prove to be extremely inadequate to meet the basic needs of the alarmingly increasing population, in case vigorous family planning drive has not been successfully launched for bringing down the population growth rate.

In a paper entitled "Poverty, Unemployment and Rural Economy" published by PHDCCI, numerous steps have been mooted to reduce the existing population growth rate to at least 1.8 per cent from 2 2 per cent, so that the population is restricted to around 98 crores which could go a long way in denting on the existing level of poverty and backwardness and may be in the line with the plan targets. Thee facets should be the focal point in 8th Plan.

It is important to note here that between 70's and 80's there has been a negligible improvement in the growth rate of population. In 1970's the growth rate stood at 2 3 per cent and the same in 1980's was 2 2 per cent If the same rate i.e. the rate of 1980's i e. 2.2 per cent is continued in 1990's and thereafter, there is no doubt that by the end of the century the population will exceed one billion or more than 100 crores Then India will reach a "point of no return" Hence, certain steps have to be taken on war footing. Some of them are given as under.

- illiteracy should be minimised so that programmes of family planning should be made more meaningful and result oriented,
- adult education programme should be made more effective and purposeful,
- education should reach at the grass root and in every village education should be imparted in true sense,
- more allocation of resources should made for primary and adult education,
- improvement should be brought in the conditions of women and raising the minimum age of marriage of women and men. Government should implement the same with urgency and vigour.

- benefits of family planning should be imparted among the women and men in the rural areas,
- an effective legislation on birth control on Chinese pattern should be promulgated and incentives should also be made available to those families who adopt the concept of small family,
- propaganda machinery should be made more aggressive, effective and result oriented rather than target oriented,
- higher allocation should be made for meaningful and purposeful research and methods of family planning should made side-effect proof.

All these measures should be given top priority so that desired result to keep population below 100 crores during the end of 2000 could be possible.

Unemployment

Unemployment has been a chronic problem in Indian economy. From the society point of view this involves a colossal waste of the nation's human resources. Similarly, from an entirely personal angle, unemployment has also been a painful phenomenon.

Though removal of unemployment has been a proclaimed aim of Indian economy planning, yet in all the plans so far implemented one does not tackle the unemployment problem in a forthright manner. The Seventh Plan also adhered to the basic approach of the past and asserted that "the task is one of adopting a suitable structure of investment and production, appropriate type of technology and mix of production techniques and organisational support which would help in promoting growth in productive employment" This spirit should also be maintained in 8th plan so that desired level of productive employment could be generated during the five years of 8th Plan.

Very recently the PHDCCI paper has revealed that the population structure in Indian economy has beenshifting significantly in favour of a working-age group population and during the coming decade there would be a large growth in population belonging to this age group, leading to larger pressure on employment generation. During the current plan (VII plan), employment growth has been only about 2.5 per cent as against the target of four per cent. Thus, during the five years of 8th Plan every effort should be made to keep employment growth rate around 4 per cent so that pressure of unemployment could be brought to a manageable extent. Hence, the need of the hour is to review the performance of all the schemes namely-EGS,FWP,NREP,IRDP,TRYSEM,RLEGP which have been in operation and thereafter to make them more purposeful and result oriented. This could be done through streamlining the organisational support and framework. The concept of accountability and responsibility should be introduced for thosewho are responsible for implementing the said schemes. The following measures should be the part of 8th Plan's strategy for solving the problem of unemployment:

- to develop growth centres in the backward and most backward districts,
- **to implement Jawahar Rozgar Yojana in its own spirit, true sense and perspective,**
- to develop an aggressive and efficient machinery or mechanism for the effective implementation of various of employment generatin in general and JNRY in particular,
- to assign responsibility and to take accountability from those who are responsible for the implementation of JNRY so that money used in it could generte productive employment to the rural masses,
- to involve rural masses in the implementation of JNRY and to make them realise about the benefits of the scheme,
- to induct more agro-based industries at grass roots level so that migration of labour force could be checked immediately,
- to streamline the KVIC Boards and to inject the fresh blood in these boards,
- to develop a strong and viable organisational support at village level for the better utilisation of resources for the generation of employment opportunities for the masses.

Poverty and backwardness

Removal of poverty and backwardness have been an important objective of plannig in India, and yet the conditions of the poor, especially in rural areas where the hard core poverty lies, continues to be as (if not more) appalling as it was at the begining of the planning.

For the first time in the Draft Fifth Five Year Plan, the removal of poverty and backwardness was mentioned explicitly as an objective of economic planning. Since then, efforts have been made to remove the same. However, any appreciable break-through has not been made so far.

In 1984-85, poverty line in terms of rupees for urban and rural people stood at Rs. 121 and Rs. 109 respectively. Whereas these figures for the year 1987-88 were Rs 145 and Rs 133 respectively. Similarly, the percentage of population below the poverty line in 1984-85 was 36 per cent or 273 million, while 7th plan target was fixed at 25.8 per cent or 210.8 million. All these figures have shown that the picture or trend has not been promising and all out efforts are needed in this direction. Efforts in removing poverty and backwardness may be as follows which should be taken into consideration while formulating a strategy for the same.

- to encourage quicker re-deployment of labour and capital from unproductive and uneconomic industrial ventures and to put them into more efficient and profitable ventures,

- to streamline the machinery for improving productivity of antipoverty schemes namely-IRDP, NREP, RLEGP and JNRY with urgency and vigour,
- to make all out efforts in regard to untouchability in rural areas and to bring such people into the national mainstream so that they could realise that they are the part of the nation and their contribution in building the nation. is as important as of others,
- to disperse industrial projects in all the districts of the country so that economic gains arising out of them could reach the common man,
- to facilitate greater labour absorption in manufacturing process,
- to expand productive employment opportunities in all the sectors of the economy on an increasing scale,
- to encourage self-employment through various programmes for young entrepreneurs,
- to promote entreprenuership among the weaker sections in general and women in particular,
- to extend all possible help to weaker sections and women in particular so that they could help in sustaining their families,
- to induct weaker section and women in the organisational boards and to make use of their practi cal experience.

Inflation:

Indian economy has been inflation ridden and this state of affairs has a far reaching effect on the prosperity and the standard of living of the common man which constitute major portion of the total population of the country. In 1984-85 the rate of inflation stood at 5.7 per cent and this rate of inflation has gone up further i.e. 6.7 per cent in 1988-89. This trend has been due to seasonal change, costly essentials, excess money, higher budget deficit and paucity of resources. As evident from the Economic Survey, prices came under pressure right from the beginning of 1989-90. According to the Survey, increase in the prices has been particularly high for items of agricultural origin like edible oil and oilseeds, condiments and spices, cotton, pulses, gur, khandsari and cereals. This means the basic inflationary pressure has been because of a shock to supply and the main plank of anti-inflationary policy has been the effective suply management. Hence, the need of the day is to keep restrain on supply side factors and demand side factors so that in 8th Plan we could keep the inflation rate checked. Certain measures should be taken with care, caution and vigour. These measures are as under:

- to improve the supply of essential goods,
- to streamline public distribution system and other channels of distribution,
- to rationalise existing pattern of taxation so that common man's propensity to consumption and savings could be enhanced,
- to keep effective check on M3 (supply of money),
- to introduce a periodic revision of prices of public sector products,
- to extend subsidies and targetting of such subsidies,
- to maintain stability in consumer prices of key items,
- to introduce more effective and efficient anti-inflationary measures,
- to keep budget deficit to a reasonable extent.

Resources mobilisation

For the very success of a plan, planners have to keep consistency betwen the targets laid down in the plan and the financial resources available for the attainment of targets. It is an undisputed fact that higher the targets, larger resources are needed to achieve them. The most revealing and persisting fact of Indian planning has been the gap between targets and achievements. This state of affairs has been due to paucity of resources. Hence, the success of 8th Plan would depend on the availability of adequate resources for meeting target needs. Therefore, it has become imperative that during the 8th Plan larger resources should be mobilised at all cost. Measures given below should be taken in true spirits and confidence. Firstly, resources should be mobilised from those facets of the country's economic activities which have recorded appreciable progress since 1950.
Secondly, Government'sconsumption expenditure has to be minimised.
Thirdly, higher rate of savings and investment must be maintained.
Fourthly, Government's borrowings to finance consumption expenditure must be curtailed to a lowest ebb.
Fifthly, capital market and other sub-markets should be strengthened,
Sixthly, conspicuous consumption expenditure should be avoided as far as possible,
Seventhly, new and attractive schemes of savings and borrowings should be launched and materialised.

Conclusion

The foregoing analysis, has brought out that 8th Plan has to face formidable tasks. However, 8th Plan should be a "model Plan" for future generations. Hence, in order to see 8th Plan as a "model Plan" with a great success, based on result oriented philosophy, new set of basic policies, programmes and schemes must be formulated, launched and executed in true spirits. Decisions should be purely on merit basis/economic considerations rather than political as well as self-interest basis. Economisation of resources (natural, human and financial), higher efficiency and productivity, better utilisation of existing potential may go a along way in making 8th Plan a successful venture which is the need of the day. □ □ □

More employment and less population

Navin chandra Joshi

The Eighth Plan should seek to match employment growth with rise in population. It is essential that we must always develop our ability to reduce population growth to the desired extent. However there is a silver lining that we have been successful in breaking the back of increase in the rate of annual growth of population. It has remained at the same level as in the previous decade. We should not be complacent about this. During the Eighth Plan we should give a serious thought to this and take some positive steps with more employment and less population growth, eradication of poverty will take its own course says the author.

BUILDING ON THE STRENGTH AND resilience already available in the economy, the Planning Commission now envisages a growth rate of at least 6 per cent per annum so that the economy is lifted to a still faster growth path in subsequent plans As such, the approach paper for the Eighth Plan has the ever highest public sector outlay of Rs. 3,50,000 crores at 1989-90 prices compared to Rs. 1,80,000 crores at 1984-85 prices for the Seventh Plan.

It is indeed encouraging to note that the major thrust is being given to the critical problems of Indian economy. The most important objectives are to significantly reduce unemployment, mitigate poverty to the extent it is possible and to improve efficiency of all sectors for better and more output of goods and services. The employment growth rate has been pegged at 3 per cent, while there is a target to bring down the percentage of population living below the poverty line by 10 per cent from an anticipated level of 28-30 per cent by the end of the Seventh Plan to 18 per cent by the end of the Eighth Plan.

In case the country is able to bring down the number of people living below poverty line to 18 per cent of the total population after about 48 years of our independence, it would be a laudable achievement. There is no doubt that the target can be achieved provided our strategies and programmes follow the right lines in the fulfilment of this ojective. The policy measures thought of for a six per cent rate of growth include improving the Incremental Capital-Output Ratio (ICOR) from 4.3. achieved by the end of the Seventh Plan to 4.15. The draft of the approach paper mentions that the total savings as percentage of gross domestic product (GDP) should go up to 23.3 per cent from 21.1 per cent in the Seventh Plan. However, peripheral changes might take place in these figures when the plan is finally adopted by the Naional Development Council. But these figures are not so sacrosanct What is more relevant is the will to achieve a particular target while solving any particular problem.

But then the rate of growth of GDP is a joint product of the rate of savings and the productivity

ratio (i.e., the inverse of capital-output ratio). In the Indian case, the Planning Commission's projections for 2000 A.D. show that there is only a marginal increase in the domestic rate of savings. The marginal rate of savings, which is estimated to be 28.4 per cent in 1989-90, is likely to decline to 27.7 per cent ,in 2000 A.D.

Also, while the rate of savings in Indian economy is sound, it is structurally somewhat unbalanced. The savings of the corporate sector need to be stepped up for financing its own expansion and development programmes. The Planning Commission, in its mid-term appraisal of the Seventh Plan, noted that the gross domestic savings in the economy are expected to fall short by 4.4 per cent or Rs. 3,944 crores at Rs. 65,053 crores in the terminal year of the Seventh Plan (1989-90) against the original projection of Rs. 68,997 crores. This is likely to have an adverse impact on the level of investment which is now expected to be lower by as much as three per cent or Rs. 3,120 crores at Rs 69,877 crores as against the original projection of Rs 72,997 crores.

8th Plan economic Policy

Therefore, a major task of economic policy in the Eighth Plan period should be to create the necessary conditions for the mobilisation of resources for development in a non-inflationary manner. Sensible demand management policies will continue to be an important element for an effective package of anti-inflationary policies If the demand management policies are not to hurt the country's long-term growth prospects, major emphasis must be laid on curbing growth of conspicuous consumption, preventing diversion of investible resources into low priority, activities and on promoting savings so that investment requirements of accelerated growth can be financed in a non-inflationary way.

Savings

It is also necessary that the total amount of savings do not outrun the country's physical capacity to produce. It can be argued that the proportion of income saved and invested will be fairly high if greater inequalities prevail and if the pattern of demand is distorted from production of mass consumer goods to the production of luxury articles for the few. If, however, we were to adopt such a philosophy of development, economic growth will take place by leaps and bounds but it will also create situations of hyper-inflation, unemployment and misery for the common man. Therefore, major expansion in additional production must be in consumer goods as the key to development lies in increasing the per capita income of the masses. It is only then that increases in savings and investment will be a consequence of the success of our development programmes

As such, a major quantum of savings should come from the richer classes of the society through launching a campaign to siphon off the extra incomes of people in both urban and rural sectors. Also, the loopholes in various areas of national life by which leakage of national revenue takes places need to be plugged firmly and effectively. Wastage of our scarce resources must not be allowed to take place in any field of economic activity. **Public sector enterprises have to be toned up to the top level of efficiency. They should not be subsidised by the government through budgetary support or for making up their losses.** In case of losses, they mut be privatised for the larger benefit of the society. In fact, the shortfall in domestic savings rate is mainly due to the inadequate savings generated by the public ,sector as against the targets laid down inthe five-year plans. Presently, the piquant situation is that if we try to mobilise larger resources, we have to make sacrifices of the growth momentum and if we want growth through higher consumption, the supply constraint may emerge on account of lack of adequate resources for investment. Somehow, we must wriggle out of this sordid situation.

Also, we must remember that growth is no longer a guarantor of trickle down effects. The market as an instrument for ensuring optimum allocation of resources has been discredited. The superiority of the one or another strategy of growth has also not been established anywhere. There is indeed no unique way to describe an ideal growth process and it is foolish to insist on one. Growth involves a dynamic interacting system of linked changes. The economic endocrine gland remains to be discovered but even if it is isloated, it can never be clear how much other matters will have been advanced. Little attention is, therefore, required to be paid to the rate of growth so long as it is positive

Attack on poverty

It could be argued that rather than the tickle-down effects of growth, it is the direct attempts at poverty reduction through IRDP and employment generation programmes that will help in reducing poverty during the Eighth Plan. However, numerous evaluations done by the Planning Commission itself have shown the rather limited impact of these programmes in lifting the beneficaries above the poverty line About urban poverty, the picture is likely to be no different. There is little evidence that urban growth is generating enough employment to offset the impact of population growth and influx from rural areas.

According to the Government, in absolue terms the number of the abjectly poor would come down from 273 million in 1977-78 to 211 million in 1989-90. The poverty question needs to be faced with greater earnestness not merely because tardy records in the

population grówth rate would continue to produce a huge number of destitutes in India. In fact, poverty is more serious a phenomenon in some regions and some communities. Until these special features are consciously addressed to, accusations of the governement pursuing elitist policies would grow creating eventually explosive social conditions. The anti-poverty strategy has now become specially relevant as the county is on a course to graduate to a higher level of technology. The question to be answered is whether bigger investments should be made on technology at the cost of employment. While income is growing in India both to reflect upward production curves and higher national income, employment is not growing proportionately. This is the reason why **the government has to allocate funds for special schemes to generate employment. This seems unavoidable, but a rational economic strategy has to go beyond these palliatives.**

If poverty eradication is an important objective, it should be pursued only by introducing structural changes in the pattern of asset-holding, and by encouraging planned development which will at least not cause further distortion to the existing pattern A market-oriented system of production has an inevitable tendency to aggravate concentration of inocme and wealth, and to divert production to meet the demands of the affluent rather than of the poor This helps in deepening poverty. The objective of employment generation would suffer in competition with the use of labour-saving machinery. Take for instance the green revolution due to which the ranks of the landless unemployed swelled enormously Anti-poverty measures may improve productivity in the long-run but few of them generate suficient funds in the short-run to maintain employment they initially create As such, investment should be renewed from year to year to ensure a given level of employment It should be increased from time to time so as to bring more and more individuals above the poverty line

In fact, poverty means unemployment or under-employment Unless our production programmes generate employment at an increasing rate and are supplemented by construction programmes, the problem of poverty cannot be solved or tackled. Quite rightly the Planning Commission has taken into account serious distortions that have taken place in the economy during the Seventh Plan period as a result of steep rise in non-essential consumption favouring the upper sections of the population. The Draft approach paper for the Eighth Plan has therefore called for a through reordering of the existing consumption and production patterns for ensuring more rapid growth in consumption of the lower income groups. It is in this context that the draft paper has emphasised maintenance of non-inflationary conditins - the rate of growth of the general price level to be kept at below 5 per cent per annum. It must be recognised that with a rate of inflation even around 6 to 7 per cent per annum and when in many sectors of the economy, particularly wages of the government sector, there is indexation for inflaction, surely financial calculations for plan investment are thrown off the track. High wage public employment serves as a contributory factor in the govenment dissaving. It limits the ability of the government to sustain a more broad based programme for poverty alleviation and minimum needs. Hence, the policy of 'consumption-led growth' even at the cost of investment needs a reversal

The approach paper emphasises that the higher growth target set is not a luxury "It is necessary because a higher growth rate is a precondition for clearing the backlog of unemployment, provide employment to the additions to the work-force, bring sufficient momentum to modernisation and restructuring, induce a higher degree of competitveness and efficiency in the system, and meet the requirements of food, clothing and shelter for the growing numbers" The track record of the performance of the Indian economy during the last four decades of development planning is far from encouraging The per capita income during the period 1950-51 to 1984-85 has risen at the average annual rate of a mere 1 3 per cent At this rate it would take some 52 years to double the per capita income and not 27 years as envisaged in the perspective of the First Plan. Viewed in this context, the anti-poverty programmes assume critical importance in the growth strategy They should not be regarded as an apology for development planning but considered as an integral part of the development plan.

Check on population growth

If poverty alleviation is the central task, as it should be in any developing society, the desirability of the six per cent growth rate is certainly beyond question. With the population growth rate running over 2 per cent, the per capita income growth rate should exceed 4 per cent, per annum, if every Indian is to be given the minimum of food, clothing and shelter by the turn of the century It can be argued that rather than pitch the growth rate high, an intensive effort to reduce population growth must be launched for achieving the desired growth in per capita income as more than the growth rate of GDP it is the growth rate of population that needs to become the central and most crucial variable.

It is also true that a reduction in population growth cannot be achieved in the absence of a high growth rate of GDP and rapid employment generation. As such, the policy framework has to address both the

goals simultaneously. Indeed, this has to be the case if social justice is to be the focus of the Eighth Plan strategy. Thus provision of social services and investment in education and health care need to be high on the list of priorities. Also, there should be a qualitative orientation of the growth pattern and the concomitant changes in the pattern of investment In turn, this is inevitably linked with the structure of savings, the savings ratio as also the efficiency of investment as reflected in the capital-output ratios in all the sectors of the economy.

A six per cent growth rate threrfore places before the planners a task of formidable dimensions By the end of the century, the country will have a population of one billion. The country will need 185 million tonnes of foodgrains by the end of the Eighth Plan (1995). An analysis of the past performance of Indian agriculture shows that the challenges of the next decade are not only bigger but also of a different kind. The past generators of agricultural production comprised mainly of highyielding varieties of seeds, irrigation facilities, fertiliser distribution and logistics of input supply which successfully brought about the foodgrain production to a level of 171 million tonnes To achieve a quantum jump to a level of 220-230 million tonnes which will be needed by 2000 A.D, however, new accelerators are required. We would need to evolve genetically superior high-yielding varieties of seeds for each of the identified agroclimatic region and judicious use of fertilisers and micronutrients. Their availability at the village level will have to be assured. Water management would require improvements. While ensuring proper price and market support for the agricultural produce, an overall infrastructural support in the rural areas for transfer of modern production technology, communication and distribution would be necessary The area under crops will have to be increased through inter-cropping, double-cropping and multiple-cropping. Crop production in drylands will have to be increased through on-farm moisture conservation to sustain improved crop husbandry and scientifically drawn cropping system.

In fact, the rapidly growing population would have adverse effects on all the sectors of the economy including food, land, housing, education and employment The Eighth Plan has rightly set the target of bringing down the population growth rate to 1.9 per cent per annum by 1994-95 from the present 2 1 per cent. Presently about 60 to 70 per cent of the total plan outlay under family welfare programme is used for meeting the expenditure on committed liabilities, leaving very little for fresh initiatives. The Planning Commission has suggested that the possibility of transferring such committed liabilities to the States would be explored and the present formula for the release of central assistance to the States may itself need to be amended to link assistance, at least partially, to the performance in population control measures. Further, during the Eighth Plan period, the Commission is in favour of introducing subtle incentives like limiting maternity leave for two children, priority in the allotment of housing sites, loans, etc,, to couples with two or less number of children within the government and the organised sectors.

As on March 31, 1989 the country's population is estimated at 807 million but the alarming feature is that 17 million people are added every year. By the turn of the century, India's population will be at the level of 1018 million. The failure of the majority of the States to achieve their proposed family planning targets during the Seventh Plan period has sent haywire the original demographic estimates made by the Planning Commission for the formulation of the Eighth Plan Latest studies made by the Commission for the preparation of the draft approach paper show that as against the population estimate made inthe Seventh Plan document, there will be a rise of population in the country by about 14 million in 1991 and by more than 33 million in 2000 A.D

The Seventh Plan projected a population of 837 million by 1991 and 986 million by the turn of the century. And now, the revised estimates as per the recently tabulated data show that the country's populatin at the end of 1991 will be 851 million and in 2000 A.D. it will be 1018 million. According to the Planning Commission, the target of a Net Production Rate (NPR) equivalent to one for the country as a whole is likely to be delayed by a decade compared to the earlier target of 2001-06 A.D. The Crude Birth Rate (CBR) has remained stagnant at over 34 during 1981-85, declinigna little in the next two years. Further, birth rates have now shown a slowing down as implied in couple Protectin Rate (CPR) figures.

As a result of increase in population, the pressure on social services will further aggravate during the Eighth Plan period. The pressure points of population growth will shift from rural to urban areas, causing furhter strain on urban services and facilities The main assumption behind the comprehensive National Population Ploicy (April, 1976) was that population was an offshoot of poverty and had to be tackled as a part of the overall design for better life However, no clear demographic goals were defined under the policy. To reach them, as well as to integrate family planning with the overall strategy of socio-economic development, a number of programmes were initiated as part of the policy. But then, there was no adequate recognition of interaction takingh place between population and development in programmes relating to limiting the rate of population growth. It is only recently that our experience with the growing

numbers exploded the fallacy that development was the best contraception though socio-economic progress may not contribute to adoption of the small family norm by couples. In case there is a strong in-build linkage between fertility conrol measures and the development process, surely the battle against growing numbers could be won sooner than expected However, such a linkage has also proved to be a myth.

Admittedly, the interply of population with economic growth is not uni-directional as a number of other factors such as the size of available resources and the level of technology attained also play an important role in determing whether a particular growth rate of a community is healthy or injurious to its economic well-being. The incidence of poverty and unemployment rampant in the country are enough indicators of the fact that the development process cannot be relied upon for salvaging the country from the malaise of population explosion.

Strategies

What then are the prospect for population control in the medium run, say 2000 A.D.? Given the low level of political commitment and bureaucratic system that cares for various social problems other than demographic ones, prospects are at best marginal. **Unless there is a strong political will, the only hope left would be greater industrialisation , urbanisation and education, especially women's education.** Socio-economic programmes relating to literacy improvement, involvement of women in work and enhanacing the status of women in society are considered important in the context of long-term policy of reduction in fertility. To the extent that improvement in socio-economic sectors influence fertility behaviour, the need for integrating family welfare programmes with other development programmes, particularly community participation, must be recognised.

A step-up in the marriageable age of girls, spread of female education and expansion of employment opportunities for women will no doubt bring about a reduction in birth rate but these factors will require large effort and will take long to produce the desired results as they are part of the overall development process. What is needed is the introduction of such measures as can give quick results and at the same time, are not likely to be misused Monetary incentives given to the people to induce them to adopt family planning methods have been largely misused and misappropriated.

The silver lining is, however, provided by the less obvious and perhaps less publicised fact that we have been successful in breaking the back, so to say, of increase in the rate of annual growth of population as it has remained at the same level as in the previous decade, i.e., 2.1 per cent. The death rate has come down significantly in most of the States, while the birth rate has fallen in varying degrees depending on the socio-economic millieu and the seriousness with which the family planning programme has been implemented.

It should now be seriously debated as to whether we require to follow the policy of 'the stick or the carrot' for controlling population growth which, in other words, means whether we should rely on incentives or disincentives, or both for bringing about wider acceptance of family planning. The Eighth Plan should give a serious thought to this and take some positive steps. Since a major part of our resources are preempted for investment in economically productive sectors we cannot follow a too liberal policy of offering carrots or high cash incentives. Free clinical facilities and supply of contraceptives and easier access to clinical services to the poorer sections to whom they were not available till now are certainly a part of the carrot the government can offer. As for the policy of the stick or disincentives, there is little room for such a policy in our democratic system based on conviction and compromise. Disincentives in the form of denial of food, clothing and shelter and medical facilities are out of question for non-acceptors of family planning since these form part of the basic human rights and moreover, it will cause harship to poor families which are already deprived of them. In fact, they are the target groups whose economic base has to be strengthened so that they adopt family planning voluntarily. Any drastic measures of disincentives would therefore be counter-productive.

The percentage of couple protection rate (CPR) needs to increase from about 36.6 per cent at present to 60 per cent by 1995 Demographers have calculated that, if this is done, the Net Reproduction Rate in the country by 1995 would be reduced from 1 5 to 1. Then the average rate of population growth may hover around 1.6 per cent, assuming that the benefits of declining fertility do not reach the target groups in any substantial manner. Also, the existing package of incentives needs to be rationalised while possibility for introduction of community-based incentives to promoters may be explored. The incentives should not only be on the basis of performance on the family planning front. Other activities relevant to fertility decline like immunisation, female literacy and nutrition may be taken into consideration.

The unemployment problem

On the employment front, the Seventh Plan visualised no more than a 3.99 per cent growth in employment per annum, manifesting the micawberish attitude to the solution of the unemployment problem. At the beginning of the Plan (April, 1985) the backlog of unemployment was estimated to be around

44 million persons. The existing population of the country is around 807 million. Assuming the growth rate of population and labour force at 2.48 and 2.54 per cent respectively, the estimated labour force in 1990, the terminal year of the Plan, will be 340.74 million implying an addition to it in the plan period of five years to the tune of 38.53 million. Obviously, the Indian economy will have to generate additional employment opportunities for a labour force the size of which may be around 55 to 65 million persons during the Eighth Plan period.

The need for some kind of employment guarantee programme has been agreed upon in the Planning Commission, though this will have to be linked to a minimum wage to attract only the poorest sections. **The Jawahar Rozgar Yojana, if implemented honestly and effectively, is bound to make a dent to some extent.** A State-wise review of the incidence of unemployment shows that two-third of total unemployment in the country is concentrated in six States viz., Tamil Nadu, Andhra Pradesh, Maharashtra, Bihar, Kerala and West Bengal. If Uttar Pradesh is added to the list, nearly three-fourths of the total unemployment is accounted for. The average rate of unemployment has been, by and large, 10 per cent or more with Kerala State having the highest rate

Rural unemployment in the country is much more serious than what it is in urban areas. While the rural sector poses the problem of landless workers and marginal farmers, the urban sector faces the challenge of providing white-collared salaried jobs to all educated persons The organised sector of the economy, existing mostly in the urban sector, absorbs about 11 per cent of the annual increse in the labour force while the remaining 89 per cent is engaged in the unorganised sector This shows that the rise in employment has not been commensurate with the increase in production levels in the organised sector. And the unorganised sector, which has a higher employment potential, has not been able to provide sufficient employment for even its existing work-force.

To tackle unemployment in urban areas, the Eighth Plan must attempt to reduce under-utilisation of installed capacity in various industries for generating more jobs for workers. Also, the basic structure of educational system has to change making it more and more vocational. The existing educated unemployed youth should be provided jobs in various public works programmes after imparting them short-term departmental training. The higher secondary stage must immediately become the terminal point for not less than 90 per cent of such students.

The Self-Employment Programme for Urban Poor (SEPUP) started in September, 1986 opened new vistas for solving the problem through credit. The scheme is ideal for improving the living standards of urban poor but it has its own limitations like non-availability of organised marketing, tough competiton in urban areas, tendency to spend additional income on luxuries and the spiralling of price of essential commodities. One good feature of the scheme is that banks have been made solely responsible for its implementation right from identification of beneficiaries to the recovery of loans.

In the rural areas we should ensure more productive utlisation of the basic resources of land in favour of small and marginal farmers, unrecorded share-croppers and eligible landless labourers who are still to get their share out of the land acquired under the various ceiling laws. Let us make them viable farmers and then bring them into the network of viable rural projects. Since the Eighth Plan seeks to match employment growth with rise in population, it is essential that we must also develop our ability to reduce population growth to the desired extent. With more employment and lower population growth, eradication of poverty will take its own care. □ □ □

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Over 10% growth in Industrial exports

India achieved an annual growth rate of more than 10% in industrial exports in volume terms. The Minister of State for Industrial Development Shri M Arunachalam said this while addressing the International Seminar on "Industrial Policy of India-Radical yet stable" in New Delhi recently. The Minister added that the Government had begun a policy of progressive delicensing of specific industries from the list of licensible industries. This meant that the government was progressively reducing the number of industries that had to otbain licences from the government for capacity utilisation.

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Rs. 350,000 crore public sector plan outlay mooted for the Eighth Plan

The Planning Commission has been tentatively thinking of recommending public sector plan outlay of Rs 350,000 crore for the Eighth Plan at 1989-90 prices which works out to about the same percentage of GDP (Rs. 180,000 crores at 1984-85 prices) in the Seventh Plan. This was disclosed by the Deputy Chairman of the Planning Commission and Minister for Planning Shri Madhasinh Solanki while presiding over the meeting of panel of eminent economists convened by Planning Commission to help formulate 8th plan projection in New Delhi recently. The Minister said that it is heartening to see our exports doing well. In U.S. dollar terms the growth rate of exports has been around 15% per annum and in real terms over 10%.

Planning process and methods

Dr. S.R. Hashim

The article traces the evolution of the Planning process in our country since the formulation of the first Five Year Plan. It describes in detail the methods that are adopted in determining the strategies in various fields of national development. The author, who is Adviser, Perspective Planning, Planning Commission, explains the working of the annual plan, the five year plan and the perspective plan and carefully brings out their inter-relation. He maintains that India's experiments in planned progress have added significance as they are formulated and executed through democratic processess. The success of Planning, he tells, depends essentially on the willing cooperation of the various groups for whom the plans are made. The idea is to have more effective self-governments at district and village level, so that rural and urban bodies could participate directly in programmes of their own local development.

THE PLANNING TECHNIQUE, ITS nature, its efficacy or otherwise can be better understood in the perspective of economic and political environment of the country India is a mixed economy and it is a nation consisting of federal economic and political units, states.

The characteristic of being a mixed economy has two connotations. One, 'market' and 'directives' both have a role in price determination and in economic decisions, though on balance, market may have a larger role in this respect Two, public and private sectors both make investments and share in the production process. While in part, private sector is subjected to policy directives, public sector also has to work in reponse to market forces in substantial sphere of its operation In capital formation, the share of private and pujblic sectors are roughly equal, but in direct generatin of domestic product the public sector co- ntributes roughly one-fourth while private sector contributes three-fourth A subnstantial part of the public sector investment is of such nature that does not generate income directly in the public sector, but contributes to production and productivity in the rest of the economy. Public sector undertakes capital intensive investments for providing infrastructural facilities like transport, energy and basic inputs like steel, fertilizer etc.

Indian Planning comisision is the clearing house for crucial economic policy decisions undertaken at different levels for ensuring consistencies with plan objectives In its advisory role it works in close collaboration with other national agencies including Central Bank, Finance Ministry and other economic ministries Besides, the Indian Planning commission plays two important roles It allocates amongst sectors the public investment of the Central Government This includes nationalised sectors like coal, railways, air transpoort, nuclear power and financial institutions and sectors with a major government share like steel, non-ferrous metals, machinery and large state trading opertions. In addition, the Planning Commission also allocates investment to those sectors where the major responsibilities lie with the State Government. Such sectors are agriculture, irrigation, power, road transport, social services, and since the Fifth Plan,

more of local development schemes and special area programmes. Broad allocations are made in the Five Year Plan, but Planning Comission plays a determining role in allocation of annual plan investments both at the Central and the State level and between sectors.

As to the time span of planing, the process has a three tier system. In this system the annual plan is formulated within the frame work of Five year plan, which is again formulated in the frame work of a perspective plan of 15-20 years. The formulation of an annual plan implies adoption of the 'fixed plan' technique. The relationship between annual plan, where the period is one year and the five year plan where the period is five years, is that of a semi-rolling planning technique as the period keeps on rolling and horizon remains fixed. On the other hand, the relationship between five year plan, where the period is five year and the perspective plan where the horizon is fifteen years or 20 years, is that of rolling plan technique as both the period and horizon keep on rolling. After every five years there is a new five year plan and a new perspective plan of 15 years or so. Although the basic logic of the rolling plan technique has always been recognised it was not given explicit recognition in the formulation of Plan models in general. Indian Plans at present are formulated with a perspective of 15 years beyond the five year plan.

Planning Commission is by statute, an advisory body. But the fact that the commission has its Chairman, the Prime Minister and a few cabinet ministers as its members decisiones of the Planning Commission have a unique authority which are generally accepted for implementation by the ministries concerned.

The country being a federal democratic polity the states have their own Plans, based on their own perceptions of needs and priorities. these Plans have to fit in a national plan in such a way that maintaining inter regional and inter sectoral consistencies, within over all constraints of national savings, resources and balance of payments, they all lead towards the mutually agreed upon national goals. Consistency between the National Plan and the states' Plans is reached through a process of discussion and consultations at varuious stages. Each layer of Government is expected to carry out the agreed plan jobs within its constitutionally allocated sphere. Where Plan requires coordination among the policies of several states or emphasis from national point of view, on a particular type of programme agreed devices have been found. Centrally sponsored schemes are important in this context. Their sphere and extent have been carefully defined.

An impoprtant feature of the Indian economy as already mentioned is the existence and growth of a substantial private sector comprising a vast gamut of almost all the rural economic activities such as agriculture, cottage industries as also a large part of urban economic activities including tiny industries, small scale industries, retail and whole sale trade and transport etc. The role of Planning Commission vis-a-vis this sector has always been some what limited. Planning has to make a great impact on these sectors given their size and employment potential. Apart from some direct controls and incentives of indirect type through giving subsidies or resorting to licensing and rationing, the Planning Commission has no direct control on the private sector of the economy. Licences, capital issues, regulation of credit and monetary controls, represenations on Board of Directors via financial institutions and company law establish a regulatory net-work giving Government a very important say in the decisions in this sphere.

India's experiments in planned development have added significance in that they are formulated and executed through democratic processes. The success of planning essentially depends on the willing cooperation of various groups. The five year plans as well as the approach to the plan are discussed and approved first by people's representatives at various levels and are finally approved by the National Development Council consisting of Chief Minister of the States and the members of the Planning Commission with the Prime Minister in the Chair.

The ultimate objective of Indian polity is a decentralised democratic society with a high degree of self-governance at various levels. In consonance with this, multi-level planning has been an important goal of national policy. The idea is to have more effective self-government at district and village levels, and to assign the task of local development to such rural and urban bodies. Decentralised planning is being given a renewed thrust now.

Planning methods

Plan formulation, in each successive plan period, entails crucial choices with respet to certain vital goals strategies and technical parameters. These pertain to the rate of growth of the economy, the savings and investment rates, the required efforts for reducing the capital-output ratio and for increasing exports, and the like. These choices are always made in the context of the socio-economic goals of increasing consumption, meeting minimum needs, achieveing full employment and eliminating poverty. In addition there is the goal of self reliance, modernisation and technological development.

For accelerating the pace of investments Indian plans have heavily depended upon domestic resource mobilisation (domestic savings). There has been a relatively smaller contribution of foreign inflows, say to the extent of around 8 percent of investment Though, the emphasis has always been on mobilising

voluntary savings in the economy, the resources gap is also filled in sometimes by taking recourse to deficit financing. Foreign aid also enables, the country to find foreign exchange for critical inputs by means of imports.

Price stability is considered crucial to the success of the Plan. Usually a high rate of growth has the potential of generating inflationary pressures, particularly when there is excessive reliance on created money than on resource mobilisation. But some monetary expansion is unavoidable and may be even beneficial to growth. The tendency to make priority products less profitable through price controls while leaving less essential products free has only the effect of encouraging investment in non essentials. India has witnessed how in agriculture, a change in emphasis from keeping prices low to giving producers a remunerative, stable and predicatable return encouraged investment and higher production. Apart from controls some open market operation played a major role, particularly in foodgrains. India built up buffer stocks in years of good harvests and released that in years of scarcity. Buffer stock operation is a costly one. It locks up reasources and then there is carrying cost. But it has served a useful purpose of stabilising the food economy.

The technique of dual pricing is adopted in some cases to help producer to obtain an over all return at a level to encourage production and investment and at the same time met minimal consumption needs of the community at a controlled price the difference being a subsidy. Given the administrative difficulties in policing effectively a complex system of price controls over a wide range and for a long period, the effort has been to limit the area of price control and to shorten its duration.

The problem is that of maintaining higher level of investment activity, consistent with the output strategies of the Plan and also with the social objectives like control of monopoly. Substantial relaxation has taken place in licensing and other policies towards the non-monopoly corporate sector at present

The prime role of Planning Commission is to visualise development of the economy through a consistent model constructed and elaborated by a series of exercises under the guidance of the Commission. India has a long and established tradition of plan modelling. The evolution of planning models in India for about 40 years indicates an increasing appreciation of the use of formal models in Plan allocations. It also clearly shows how the model structure has undergone a gradual adaptation to capture the dynamics of reality of social, economic and political institutions of the country and the aspirations of the people. Though the basic long term objectives of Planning in India have remained more or less the same, the strategy of development in India has undergone changes from plan to plan in response to the changes in exogenous conditions. Moreover, the strategies have been revised in the light of past experience in implementing the Plan. The formal model specifications of the Plan also underwent changes in order to capture the changed strategies and priorities. Availability of more extensive data and evolution of better systems over time also facilitated extensions in model specifications and coverages.

Evolution of Planning Models in India

The First Five Year Plan document of India did not mention explicitly the use of any planning model though, behind this Plan one could think of a macro structure of Harrod-Domar type linking savings/investment, capital-output ratio and rate of growth of the economy. The Plan made several exercises with alternative assumptions about marginal capital/output-ratios initial saving propensities and marginal saving propensitites. The rate of saving was assumed to be higher at the margin. But it was admitted that these parameters were illustrative and mostly derived from the experience of other countries.

Macro exercises similar to that in the First Plan - but based on more realistic assumption about saving propensities, population growth and capital output ratios were undertaken for the Second Plan also. The Second Five Year Plan also attempted a more detailed accounting of major plan activities. The long run growth strategy laid a special emphasis on the role of heavy capital goods industry, the logic of which was derived from Mahalanobis model. Prof. Mahalanobis demonstrated that in an economy with two sectors of capital goods and consumer goods, higher investment in capital goods industry resulted in higher levels of income in the long run. The role of capital goods industry was based on the assumption of a closed economy. Openness and closedness of an economy are only relative terms. Given the period under consideration perhaps the Mahalanobis assumptions were closer to reality. [Choice of proportion of investment going to capital goods affects time profile of consumption and a decision on this score implies judgement on social rate of time preference. The decision of the Planners implied that the future was discounted at a low rate.]

The Third Five Year Plan introduced for the first time a disaggregated planning scheme in its perspective framework, besides continuing the First Plan's emphasis on the role of saving and the Second Plan's emphasis on the role of capital goods sector. One notable innovation made was the attention that come to be paid to material balances' in the intermediate goods sector. For the intermediate goods the only sound method was that of material balances. Also it is interesting to note that in the Third Plan, the closed economy philosophy was modified and an

export promotion strategy was introduced. The role of foreign aid was appreciated in financing the Plan Emphasis on 'aid to end aid' signified perception of the objective of self-reliance in a time bound frame

Next major land mark in plan modelling occured with the formulation of the fourth Year Plan. Multi-sectoral consistency planning model was introduced and material balances and financial balances were prepared in more details. The model has 77 sectors and was formulated exclusively for checking and setting up a consistent set of gross output targets for 1970-71 within boundary conditions set by the macro model.

A link betwen the macro plan (based on natinal income aggregates) and the financial plan was established by matching sectoral investment needs with the source of financing.

In April 1973, The Plannig Commission of India published a Technical Note on the approach to India's Fifth Five Year Plan covering period 1974-79. This was the first time that the theoritical and numerical schemes of calculation underlying India's development programme were officially published. This practice continued for the later plans also.

The Fifth Plan model and Sixth Plan model were essentially similar in most respects except for the addition of investment sub model to the later Both the models had emphasised redistribution of income as the most effective instrument in achieving the primary objective of provision of basic needs.

Fifth Plan as also Sixth Plan sought to mount a massive attack on poverty by focussing on improving levels of living in a time bound frame. The substantive model had three segments in the Fifth Plan (i) a macro model, (ii) an input output model and (iii) a consumption model. Macro model was computed with a rate of growth of national income that would guarantee a designated level of per capita income to the target group. Terminal year investment was to be chosen so as to entail a steady growth in the post plan period as well. Mention must also be made of elaborate estimation of employment coefficients for deriving the employment potential of the plan. Another significant improvement in Sixth Plan was that an aggregate Capital Flow Matrix was linked to the plan model for the first time, and investment function were estimated for broad groups of sectors with gestation lags A very elaborate specification of the entire model including all the sub-models was specified.

During the Fifth Plan the system of sub modelling was introduced for the first time. One was on agriculture and another on employment. The basic purpose of this sub model was to work out requirements of land development irrigation, extension and fertiliser. Past behavioural relations are used to fix the land constraint. Econometric studies give estimates of elasticities of cropping intensities with respect to irrigation. Irrigation targets fix land constraint. HYV-irrigated, oher irrigtated and unirrigated are three types of land types considered. Yields are projected for each using trends'estimated from crop cutting experiments. Thus, increases in aggregate yield for each crop (derived form the core model), the aggregate land constraint (separate for irrigated and unirrigated land) the projected yields for each land type in each crop, iterative procedures and agronomic judgements are use to fix land requirements. The agricultural sub models technology assumptions are fed back into the technologhy coefficients of the plan model.

The employment sub model uses sectoral labour coefficients to project labour demand. Aggregate labour demand is subtracted from labour force projections to estimate terminal unemployment rates. Concepts of disguised unemployment and low productivity unemployment are not explicity introduced.

The Plan Model at present

The model used in the fonnulation of the Seventh Five Year Plan (1985-90) is essentially an extension of the one used in the Sixth Five Year Plan. The model consists of a core model and seven major sub-models viz., agriculture, poverty, industry, consumption. export and import, financial resources and demography and employment The core model consists of

(1) macro Economic Model,
(2) Input-output Block,
(3) Investment Block

All the blocks are interdependent the degree of interdependence differs between various blocks. The seven submodels arew recursive to the core model. They are primarily designed to process the inputs (as exogenous variables) to the core model.

Macro economic model:

The macro economic model involves national income and expenditure indentities and this in combination with the input-output block determines investment in the terminal year endogenously. Total import is obtained endogenously in the Input-output block while the rest of the variables are exogenous

Input-output block:

The year 1984-85 has been adopted as the base year for the purpose of projections for the Seventh Five Year Plan. The output levels needed to satisfy the final demands determined by the macro model are determined by the Input-Output model as sum total of intermediate demands and final demands, thereby ensuring a consistency between the different sectors in output structures.

(Contd. on page 36)

Jawaharlal Nehru: the founding-father of democratic planning

Dr. L.J. Soundar Rajan

Nehru was a personality of public appreciation and general approbation He had abundant intellectual capability and intelligent capacity. By introducing planning in a democratic country, he has become a harbinger, path-breaker and pioneer in the world.

Democratic planning achieved almost universal popularity when Nehru introduced it in India systematically and methodically. During his tenure as a Prime Minister, he used democratic planning as a weapon to achieve faster economic growth, broader social justice and greater equality of opportunities. Uptil to-day, his concept remains a touchstone of political achievement and top-root of economic accompolishment. Democratic Planning is a conscious effort of a Central Organisation to influence direct and in some cases even control changes in the principal economic variable of a country over the course of time in conformity with a pre-determined set of objectives. In simple words, when the Government of a country tries to achieve certain national objectives with the help of a set of economic policies, then that set of economic policies is called a democratic planning. It came to be considered as the logical necessity after the attainment of freedom from British Imperalism. This mood was epitomosed in the words of late Jawaharlal Nehru. He said: "We must remember that democracy no longer has any meaning if it has no economic content". With these words, he wanted to see India an economically powerful giant in Asia.

After the sad demise of Mahatma Gandhi, Jawaharlal Nehru became the dominant figure in the New India The astonishing status of India today is of his making. The effect of Nehru is a revolution of consent for it is a legal revolution unsullied by the hates of class warfare. Nehru's planning is non-doctrainaire and its methods taken their inspiration from the Hindu attitude to life, tolerance and persuasion an apparent lack of formulated principles, changes of attitude, compromise and bargaining. Nehru has hailed from a nationalism-minded family, He was born in Allahabad on 14th November, 1889. He had his education in Cambridge since 1907. He actively joined the movement of freedom struggle since 1919. He met with his natural death in 1964. From 1951 to 1964, he was directing the planning machinery to gear up the Indian economy. As a Prime Minister of India, he strived hard to speed-up economic growth and social justice through a democratic planning which was legitimised with overwhelming approval.

Democratic planning as a weapon

Jawaharlal Nehru was a man of insight, far-sight and foresight. His dream was that India must become a powerful economic force in Asia. What is more, should India become a force to reckon with, he believed that masses in India must be free from poverty, ignorance, illiteracy and superstitions.

He was a man of supreme dedication and significant determination. Nehru's aim was to accelerate economic development by bringing about an optimum utilisation of its resources so that the masses can have a reasonably high standard of economic well-being. In achieving it. the techniques he chose to use in his planning were decentralised panchayat systems, industrialisation, co-operativisation, anti-poverty programs, scientific outlook and mixed economy. Democratic Planning is a tool to achieve some pre-determined objectives and targets fixed by a Central Planning Authority in a particular time. Actually to make planning successful, the prerequisites are efficient and corruptless administration, accurate data, proper fixation of objectives and targets, people's co-operation and participation and

continuous use of experts. Nehru thought that planning must maximise employment, channelise scarce resources, reduce disparity between rich and poor, reduce regional disparity, remove poverty and to solve problems of scarcity.

Planning Commission in a democracy

Nehru carefully democratised planning Nehru said that a planning commission must be established for implementing the above said plan objectives. It was keenly felt that the Planning commission must work in six consecutive stages. In the first stage formulation of the plan has to be done with a general approach. A 'Draft Memorandum' has to be prepared in the second stage. Draft outline has to be prepared in the third stage. Discussions with Central Ministers and State Ministers have to be conducted in the fourth stage. A fresh plan has to be prepared in the fifth stage. Final report has to be prepared in the final and sixth stage. Nehru thought that the planning commission has to perform the following functions: They are (a) to find out material, capital, land and human resources, (b) to formulate plan to utilise resources, (c) to determine priorities of plan, (d) to appraise progress of plan, and (e) to make other recommendations relevant for economic development.

With all those above views in mind, Nehru established a Planning Commission in 1950 with a Chairman, a Deputy Chairman, 6 full time members, one Secretary and 4 divisions. He said that the Chairman must be the Prime Minister and the Deputy Chairman be an Economist. The members must be full-time persons selected from different areas of specialisation. The Secretary has to be a Government Administrator. The different divisions consist of a Co-ordination Division, a Development Programme Division, a General Division and a Subject Division. Opinions from various circles were also given due attention for the development.

The middle path

The British left the India economy with deep marks of stagnation, indebtedness, poverty, misery and backwardness. In this context, Nehru mooted the idea of mixed economy for accelerated development. Mixed Economy is a system in which the public sector and the private sector are allotted their respective roles in equal proportions with a view to promote economic welfare of all sections of the community. Mixed Economy mixes the elements of the private sector and the Public sectors and operates the economy. Mixed economy is the planned co-existence of public and private enterprises. India has adopted the pattern of mixed economy the middle way between individualism and state ownership.

Nehru spoke out the benefits of mixed economy consistently and coherently. He said that mixed economy has emerged out of the disenchantment with laises-faire capitalism especially the shock in capitalist countries of the Great Depression of 1929-33 on the one hand and disenchantment wi communism which was tried in the USSR duri Stalimist regime, with its most authoritarian plannir administrative control and ruthless suppression individual freedom in the economic sphere reduci individual to the status of just a clog in the huge stat economic administrative machinery. India had tl only option to adopt the pattern of mixed econon between individualism and state ownership. He sa that the mixed economy should have the followi objectives such as achieving efficiency competitiveness, using country's resources in planned way, achieving maximum social welfar avoiding wastage of resources, avoiding econom fluctuations, achieving equality in distribution income and wealth, guaranteeing employme opportunities, offering the Government a pr dominant role in management of Core sectors industries, making planning as a powerful instrume in the hand of Government, and utilisation natur resources to the fullest extent. These objectives ha been enshrined in different five year plans as per tl circumstances prevalent at the time of preparir each plan.

Industrial/agricultural econom

Nehru, besides, thought that industrilisation ca solve several problem of the people. To Nehr *industrilisation was synonymous with developmen* Industrialisation means adoption of technological superior techniques of production that help transform basic raw materials and intermedia goods into manufactured goods, and also th application of modern techniques of manageme and organisation It is the only effective answer to th problem of developing countries The scope fo internal as well as external economics is greater tha in other sectors and certainly greater than i agriculture As industrialisation proceeds, economie of scale and inter-industrial leakages become mor pronounced. It also leads to creation of econom surplus in the hands of industrial producers fo further investment Industrialisation can be speede up by the establishment of public enterprise in areas like steel, machine, building and service The emphasis he gave was for service like power an irrigation Further, he made heavy stress on th establishment of infrastructural inputs, basi industries like drugs, pharmaceuticals, fertilise and machine tools units Side by side, he opined th production capacity should be expanded for th existing industries, and areas like modernisatio and reequipment of national industries must also b developed. He viewed that if industrial estates ar largely established, substantial progress can b recorded in the sphere of village and small industrie In short he thought that problems like low capit intensity and lop-sided development in consume and capital goods industries could be solved onl through industrialisation. He thought that millions o people living in rural and backward regions woul benefit by that.

Agriculture in India was in an awful condition on the eve of independence. Farmers were generally in heavy debt to the village money lenders. Sub-divisions and fragmentations were largely found Credit shortage, equipment shortage, shortages of seeds and chemical manures were the problems faced by farmers. Despite 70 per cent of working population in agriculture, the country had to depend on heavy imports of food grains. To solve the above problems, Nehru accorded the highest priority to agriculture in his planning. He wanted to solve food crisis and unfavourable balance of payments. Moreover, he thought agriculture base must be strengthened for fast industrialisation. Increased production of good and raw materials must remain a major desideratum for several five year plans. The demand for food and raw materials is bound to increase rapidly as industrialisation proceeds and incomes increase There cannot, therefore, by any relaxation of efforts to increase agricultural production. Self-reliance and self-generation can be achieved only through this method of planning.

Industrial policy resolutions

To provide more employment, achieve equality of opportunity and to ensure balanced regional development he insisted on the predominant role for public sector. All his views were reflected in the provisions of Industrial Policy resolutions of 1948, 1951, and 1956. In 1948, it was said that industries like automobiles prime movers, heavy engineering, heavy chemicals, fertilisers, non-forms, metals, rubber, power, cotton, woollen textiles, cement, sugar, paper, newsprint, sea and air transport and minerals should be regulated and taken-over from the private sector in due course in order to achieve plan objectives. It was said in 1951 that industries which failed to carry out the instructions of the Government would be nationalised. Later, it was said in 1956 that the Government has the right in the interest of the planned economy to enter into category C which refers to the allotted area for the private sector The Industrial Policy Resolutions set out the principles of Nehru's philosophy though it retained, sufficient ambivalence to placate the uncommitted elements.

So far as foreign capital was concerned, it became necessary for India to invite foreign capital to help the Government in achieving objectives of planning With this in mind Jawaharlal Nehru made an appeal in April 1949 stating that foreign capital can be invited and suitable facilities would be given to foreign investors He said that foreign investors will be treated equally as their counter-parts in India. Remittances of profits would be made easier and smoother If nationalised in the interest of the public, equitable compensation would be paid to foreign investors He utilised foreign capital as a method to supplement domestic savings but not to supplaunt them He favoured foreign capitalists to own major share in an enterprise in India. He established one Industrial Investment Centre in 1961 to encourage the flow of foreign capital. Besides, tax concessions and liberal and stremlined industrial licensing policies were offered. He thought that foreign capital would raise the level of investment, stablise food and raw material prices, enlarge irrigation and power potential, improve transport, build up steel industry and enlarge technological capabilities. But he said that Indian personnel working in "foreign-capital-utilised Industries" should be given training so as to replace their foreign counter parts eventually.

Nehru said that discriminating protection must be given to embryonic industries in India. Suitable compensations must be offered to affected industries in India. Once the industries were able to grow and with-stand foreign competition, protection could be withdrawn. Maximum number of years of protection must be upto three years. The decision of the Tariff Commissions appointed by the Government of India as and on must be placed before parliament for final ratification Being a freedom fighter, he encouraged the growth of Indian industry and trade through his protectionists policies Third world countries were asked to frame agreements on tariff and trade among themselves Industrialised western nations were asked to help poor countries encouraging their exports. Austerity of poor countries was his ultimate motive.

Westernised Indian with Gandhian values

Nehru's model of development and planning has made spectacularly self-consistent achievements in the three five year plans. The country registered considerable progress in every branch of national life. In every direction new grounds had been broken and valuable experience gained. He was very keen to take India out of the bullock-cart technology. The quality of a plan depends on the quality of its policies rather than the quality of its aritmetic. His permanent achievements have stood out clearly after his death. Agriculture productivity, firstly has risen per hectare on account of application of modern seed, fertiliser and technology making the country self-sufficient in food and also to accumulate huge reserves of food grains Secondly, India has become self-sufficient in consumer goods and basic commodities like steel and cement. Moreover, the production capacity of fertilisers, pesticides, medicine, engineering and automobiles has massively increased. Capital goods sector has struck a major break-through in industrialisation. Thirdly, infrastructural facilities like power, transport and communications have become largely available and this provides the base for rapid economic growth. Fourthly, there was also an achievement of the growth of science and technology and the development of technological and managerial cadres to run a modern industrial structure. Fifthly this model has made heavy industry the foundation of the economy so that the economy is able to reduce its dependence on foreign aid. India backed the industrial base and

the need for establishment of heavy industry was strong indeed. Nehru, a Westernised Indian, with a lot of commitment for Gandhian values wanted India to be a strong industrial nation. As desired by Nehru that the predominantly agrarian economy would be transformed into a highly industrialised country, his strategy had made India the tenth most industrialised nation in the world. In order to uphold social justice and equality of opportunities, he abolished zamindari, jagirdari and inamdari systems, provided land for the landless, put ceilings on landholdings, guaranteed security of tenure, fixed minimum-wage for agricultural labour, extended support for cottage and small scale industries, granted Employees Provident Fund and State Insurance Schemes, penalised the act of untouchability, reduced inequalities of income and wealth through taxation and nationalised Reserve Bank and Life Insurance Corporation.

Planning with achievements

The day viz , 1st April, 1951 should be considered as an epoch-making day in the economic history of India because on this day Jawaaharlal Nehru introduced the First Five Year Plan in India. A series of achievements began to pour in from that day onwards In the First Five Year Plan, food-grains production increased by 20 per cent. Over all agricultural production rose by 19 0 per cent Irrigation facilities were provided to 16 million acres of land Some major projects like Bhakra Nangal, Damoder Valley, Hirakud, Chambal, Rihand, Koyna, and Kosi got started Community Development and National Extension Service Programmes were inaugurated Electricity generation rose up by 10.7 per cent The index of industrial production moved up by 139 giving an annual growthk rate of about 8 per cent Output of cotton had risen by 45 per cent National income rose by 18 per cent and per capita income by 11 per cent Exports increased by 0 3 per cent These achievements are, no doubt, modest but these are never-the-less of considerable significance for the future. In the Second Five Year Plan, National income increased by 19.5 per cent, but per capita income by 8 per cent. Irrigation facilities were extended to 21 million additional acres of land Food grains production stepped upto 80 million tonnes Increases ranging from 22 to 31 per cent were registered for suger cane, oil seeds, jute and cotton, Over all production in agricultural sector increased by 3 8 per cent. Electricity generation went upto 13.9 per cent, through the construction of a number of hydro-electric and thermal power projects The total installed capacity rose to 5 7 million k.w. in 1961 as against only 2.3 million k w in 1951 The setting up three steel plants at Durgapur, Bhilai, and Rourkela, the expansion of Chitranjan Locomotives works, and the Integral Coach Factory were the memorable projects in this period The index number of industrial production rose from 139 in 1955-56 to 194 in 1960-61 i.e. an average annual increase of 11 per cent. The Third Five Year Plan was conceived as the first stage of a decade or of more of intensive development leading to a self-reliant and self-generating economy. Progress was made for the welfare of backward class and tribes, houses for industrial workers and low income groups. These are all symptomatic of great achievements. The average growth rate was 4 per cent per year. Generally speaking, there was an increase of 15 per cent in agricultural production, 36 per cent in industry and 17 per cent in national income Per capita income had gone up by 7 per cent. The major factors, viz. the Chinese invasion of India in 1962 and the Indo-Pak conflict in 1965 hampered the course of development to a great extent. Production priorities had to be made defence-oriented. Savings were about to be maldistributed.

A Plan on need, not on resources

Despite great achievements, Nehru's planning was flawed with some limitations A strong statistical data-base was non-existent. His strategy had more inspirations from the Western Concepts, theories and prescriptions An efficient Officialdom which is formidable for effective implementation of planning was lacking in India All these could not be predicted by Panditji. It has its impact on India even to-day. Services of economic and management consultants, engineers and socialogists in the plan implementation have been woefully neglected by bureaucracy. This trend has resulted in abnormal growth of brain-drain In-efficient and corrupt administration has incapacitated his ability to manage the economic system at large

Nehru's model of development could not provide a minimum level of living in the 1960s.Nearly 50 per cent of the people lived below the poverty line The growth in the employment capacity of the economy has lagged behind even the growth of labour force As a result the backlog of unemployment and under-employment has increased Prof-Mahalanobis was directed by Nehru in 1953 to prepare a model so that it could end unemployment in India in ten years but his attempt did not materialise Inequalities of income and wealth were widening Rural people were slowly becoming desperate and dampened Knowingly or unkowingly, one more weakness in his model was that Indian big business experienced very fast growth rate Inflationary pressure has become intensified. Anther important defect is that public sector became slackened in its growth To make matters worse, drought and flood played havoc on the economy during his regime Unfortunately, it was Nehru's ill-luck and misfortune that he could not live longer to right the wrongs in his concept of planning. In a nut-shell Nehru's planning first pre-determined objectives and then attempted to ensure finances for achievement of the objectives In fact, a plan should be based not on need but on resources and their development potential If expenditures are planned in excess of resources, the Plan will either mislead decision-makers and cause waste, or else be ignored by them □□□

Reduce ICOR

Dr. K.K. Sharma

Reduction in the incremental capital output ratio, and intensive effort at raising domestic savings appear to be the sine qua non for achieving a 6 percent annual growth rate, to achieve poverty alleviation and increased employment, as major objectives of the Eighth Plan, says the author.

THE PLANNING COMMISSION HAS NOW decided that the average annual growth rate during 1990-95 will be at least 6 per cent. The preference for this rate was arrived at in deference to the majority view that in the absence of reliable data of the savings rate, it would not be safe to place a higher growth rate The majority of the Commission Members are of the view that in the current state of the economy, a higher than 6 per cent growth rate could be brought about only through higher deficit financing and external borrowings.

The argument for a higher growth rate than 6 per cent was based on the finding that the incremental capital output ratio (ICOR) was lower than was estimated for the Seventh Plan According to the CSO data, the ICOR was actually 4.3 as against the estimated 4.6 for the Seventh Plan, a target fixed by the Planners for the Eighth Plan The ICOR is required to be lowered to 4 15 and it is argued that if it is achieved, a higher than 6 per cent growth rate is feasible.

The argument for a higher growth was given up because the savings rate was lower than the expected savings rate during the Seventh Plan period. Against the estimate of 21.4 per cent of GDP, the CSO data shows that the rate has been hovering around 20 per cent. Hence the savings rate for the Eighth Plan has been estimated at 23 4 per cent as against the earlier estimate of 25.9 percent.

The lower savings rate increased the requirement of net capital inflow. The Seventh Plan estimate was 1.9 per cent of GDP and the planners favoured bringing it down to 1.9 per cent, but the Finance Ministry would not go beyond 1 5 per cent owing to the impending debt trap. The approach paper would fix the external debt ratio at 1.8 per cent of GDP. The entire net debt ratio for the Seventh Plan was put at 1 6 per cent and 1.8 per cent ratio would allow the same amount of debt as in the Seventh Plan. In view of the depreciation of the rupee against the dollar in the period, the 0.2% increase allowed by the Planners is illusory According to reliable estimates, the net short, medium and long term debt of India stands at Rs. 82,000 crores, our country being the fourth largest debtor in the world.

Even 6 per cent growth rate may prove unrealistic in view of the growth rate in the Seventh Plan on an average being 5.1 per cent, as the benefits of the Seventh Plan were not available Firstly, there were two bumper harvests and heavy reliance on imported inputs obtained with scarce foreign exchange. The balance of payments situation now requires that imports have to be controlled. There is little scope now for getting more out of infrastructure like railways, power, etc where large investments are required for creating new capacities. This has fully to be taken into account. Both agricultural growth on the projected scale of 4 per cent a year and expansion of industry will call for expansion of infrastructure requiring massive investment The gain on the round-about is thus lost in the savings

The higher the growth rate the more the savings required to support the large investment is a fact which must be taken into account Savings as a percentage of GDP did not increase much in 1980s. There is no knowing how much effort will be required in terms of tax burden on the community. In the past, shortfall in savings was made good by deficit financing, which stokes prices and by resorting to aid from foreign commercial borrowings Now the World Bank in its latest report has given notice that aid will not increase as expected and from commercial

borrowings will remain unaffordably expensive. Hence a very great reliance will be necessary on the higher domestic savings. This will require cut in Government expenditure, increasing public sector prices and more tax effort.

The achievement of a 6 per cent growth rate thus requires hard decisions, raising the question whether the political will to take them will be forthcoming. It is, therefore, necessary that every proposition relating to the Eighth Plan is realistically assessed.

India has been trying to get credit or assitance from other countries with buoyant currencies not only through international agencies but also bilaterally. In recent years such direct assistance has gone up, but it is necessary that this assistance should be obtained on soft terms.

The problem of balance of payments will continue unless credit is available from such countries on a long term basis and at concessional rates for which the scope is limited at least at present.

According to the approach paper, to achieve 6 per cent annual growth rate an aggregate investment of Rs. 6,45,00 crore is estimated. The public sector outlay is put at Rs. 3.5 lakh crores, of which public investment may range between Rs. 2.95 to Rs. 3.00 lakh crore.

The macro-economic implications of a 6 per cent growth rate include raising the domestic savings from 21.4 per cent to 24.1 per cent of the GDP; investment rate from 23.2 per cent to 25.9 per cent of the GDP and the tax GDP ratio from 16.9 per cent to 19.2 per cent. The ICOR is to be brought down from 4.6 to 4.3 (and still further), holding inflation to 4 or 5 per cent, limiting the growth in interest payments and subsidies to 9 per cent and 6 per cent respectively and other non-plan expenditure to 5 per cent.

We require an aggressive export strategy based on upto-date technology, market innovations and quickness of response. Reduction in the ICOR and intensive effort at raising domestic savings appear to be the sine qua non for achieving a 6 per cent annual growth rate to achieve poverty alleviation and increased employment as major objectives of the Eighth Plan. ☐☐☐

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(Contd. from page 30)

Investment block:

For projecting investment by destination, an econometric simulation model has been used. Then these estimated investments by destination are converted into sources with the use of a capital flow matrix before they are dovetailed with the main input-output model. Then a final consistency is ensured.

Total gross investment in any sector consists of new investments and replacement investments. The replacement investment has a finer break down as pure replacements and modernisation. New investments are geared to new capacity generation. The new investment in the particular period in any sector again is divided into investments which are committed for continuing projects or programmes and which are new starts during that period. Because of the nature of long gestation investment lags in major infrastructure sectors an integration of the long term perspective with medium five year plan is highly imperative. The aggregative value added growth rate during the plan period and post-Plan period are made consistent when relative sectoral growth rates are the same in the two periods.

Conclusion

The above description of the model in many sense over-simplifies the actual exercises that take place behind the planning process. Indeed many feasibility tests are performed on the basis of projects and programmes. Demand supply balances in the market are examined in more details, carefully assessing the implications of alternative policy packages. Financial flows and instrumental credits are examined in greater detail. Many of these exercises are performed in the Ministries, in public sector institutions and in other government bodies both under the Centre and the States including local bodies.

It is appropriate to mention some of the analytical gaps. The main model is a hybrid of dynamic inter temporal input-output model, with supply constraints built as in a programming solution. Ideally for a dynamic model the major requirement is a complete description of the capital structure of the economy to supplement the flow of current transactions. But the data base on capital structure is rather weak.

A major weakness of the planning model is that while the production structure can be made compatible with the needs of the raised levels of consumption and living of the poorer people, the model does not ensure a copmpatible distribution of income arising out of the given production process. In other words, the private consumption in the model is not treated as a closed loop and the income distribution and production structure of the economy are not therefore functionally related in an explicit way. Hence the programmes to raise more employment and to generate more incomes for the poor sections of the society are mostly adopted exogenously.

The model system also needs adoptation to the changing policy environment in which increasingly more emphasis is being assigned to competitive efficiency and openness, and hence larger role for the market. ☐ ☐ ☐

BOOK REVIEW

Project Evaluation Criteria and Cost Benefit Analysis by K. Puttaswamaiah, Oxford and IBH Publishing Co. New Delhi, 1988 (second edition), Pages 196, Rs. 95

There is an urgent need for a good text book on evaluation. Short of that Puttaswamaiah has come out with a collection of papers on evaluation written by eminent scholars like J.P. Bhattacharjee, R.K. Dhar etc. Since this is a second edition, the eminent scholars who have written later such as the reviewer, have not been included. The fact that the book has com out with the second edition reflects the demand The author needs to be congratulated for the pains he has taken, The book in fact consists of two parts Chapters 1 to 8 deal with the subject matter of evaluation-the nature and scope, types of evaluation and the role evaluation plays in public policy. Chapters 9 to 12 form part two These deal mainly with cost benefit analysis on which much awareness is required in the country

What is evaluation ? What is its aim ? What are the different types of evaluations in evaluation ? How is evaluation different from scoial surveys and sample studies ? What is its justrification ? Puttaswamaiya's collection provides some answers to these questions

Evaluation seeks to search for factors which favour or hinder the objectives of the programmes. In India, evaluation has been considered as an essential aid to the formulation and implementation of the programme. It has also helped in revising the 'Guidelines' issued by Government Evaluation studies are basically diagnostic in nature It should be objective in nature. J.P Bhattachargee holds that evaluation is a special field of social science research Evaluation should follow 'scientific method' and it should be purposeful in its approach, analysis and results Evaluation involves judgement. Both quantitative and qualitative data are used; also both primary and secondary This gives balance

An evaluator must suggest remedial measures for taking corrective action by those responsible for the execution of the programme R.K Dhar emphasises use of proper quantitative observations in evaluation. There is no doubt that evaluation is a challenging task.

The issues of GNP and CBA are discussed ably by S. Venu and S.K. Gandhe. Gandhe bases his observations on a case study of a sugarcane factory in Goa His expositition of Little and Mirrless technique of project appraisal is excellent. J.N. Tewari has contributed two important essays. Puttasamaiya's two papers have overlapping and repeatitive sentences and he being the editor could have edited them properly even at the risk of reducing the matter. His one paper is a lecture note. The author has expressed sentences from the Proceedings of the Conference of central and state evaluation officers held in New Delhi in 1978.

We do hope that this book will be well received and planners and policy makers will derive useful inspiration to improve their performance by taking course to evaluation and cost, benefit analysis in the projects they are entrusted

S.M. Shah

South Asia Cooperation in Industry, Energy and Technology: Edited by Arif A. Waquit, first published in 1987 by Sage Publications India Pvt. Ltd. 32, M-Block Market GK-1, New Delhi-110048, pages 257, Price Rs. 180.

The concept of South Asian Regional Cooperation (SARC) has gained in strength and importance considerably ever since the inception of the idea in 1981 in a meeting of the foreign secretaries of 7 South Asian Countries. The volume under review is a collection of some papers presented by distinguished delegates at a seminer in 1984 held at Administrative staff college, Hyderabad and sponsored by Friedrich Eber Foundation of West Germany and Delegation of the commission of the European Communities for South Asia. Volume represent an illustration of the extent and depth of thinking that the concept has elicited on some frontier areas of regional economic cooperation in Sough Asia. MK Rasgotra, then foreign secretary, inaugurating the seminar has highlighted the basic objectives and principles of cooperation and the organisational structure and function of various technical committees. According to him, India role in the region should be to seek and to offer experience knowledge, resources and skills. Tarlok Singh, one of the chief architects and organisers of non-governmental intellectual efforts to promote the movement towards SARC, has presented an overview of the basic objectives progress and directions of the research efforts being supported and coordinated by the committee for studies in cooperation for

Development in South Asia (CSCD) in Southj Asia over the last several years. The volume is divided into three sections under broad headings; Regional industrial cooperation, Regional energy cooperation and Regional science and technology corporation The paper by Arif A. Waquif provides prespectives on the empirical, policy and analytical dimension of regional economic cooperation for industrial development in South Asia. On the basis of empirical evidence, the paper suggests that bilteral, as well as multilateral commodity trade within the region has been negligible relative to the regions trade with the rest of the world with the possible exception of Indo-Nepal trade

RL Vashneys paper begin by suggesting on the basis of empirical evidence, that Indias intra-regional trade increased significantly during the late 1970's but seems to have declined somwhat in early 1980's. The paper then reviews the constraints in regional trade in terms of structural historical policy and operational considerations.

In Mukhergee's paper takes the analysis of revealed comparative advantage one step further by utilising the concept of revealed opportunity cost of intra-regional and international trade This analysis focuses primarily on India trade relation with Bengladesh and Srilanka in selected processed, intermeditate and manufactured items The volume, finally resolves that there is a great deal of potential for regional cooperation in industry, energy and science and technology among the South Asian Countries. Proper exploitation of analytically identified opprtunities bached by political and administrative will could lead not only to the building up of national capabilities but also to increased regional self reliance for the mutual benefit of the South Asian countries. The path towards achieving this objective is, nevertheless beset with various differents. Overcoming these difficulties would require increasing contacts among administrators, politicians, technocrats, professionals, business executives industrialists and equally important, the people of the region. The editor of the volume has done a good intellectual exercise in *compiling, synthesising-and editing the papers of the* seminar It should attract people who are interested to know the attributes basis, problems and prospects of SARC.

Tushar Kant Mishra

Sonu Giriappa: Energy Environment in Agriculture, Ashish Publishing House, New Delhi PPS VIII + 93 Price Rs. 75/-

Energy usage is an important indication of a country's development Limited supply and increasing prices have made energy a crucial input in production and this is bound to be the focal issue in many systems of development. The criticality of this input has no boubt increased over time. Cheap energy was no doubt an important factor in leading to inchecked growth in the present developed economies.

Giriappa has done considerable work on various problems of agricultural change. The book emphasises on how the recent energy crisis has been felt in the agricultural sector as well. The study beings with factual detailes of the world wide energy consumption which have been clearly analysed. The crisis existing in the poor countries thus necessitating the need for a better energy conservation strategy follows. It is surprising to note that the energy consumption per capita has increased from 1.4 in 1950 to only 1.6 in 1978. The author explains that even though agricultural consumes about 3-5% of national energy, it yields a substantial amount of renewable energy as well. A write up on the energy *measurement in the second chapter is very informa*tive and essential for attempting a study on energy economics.

The study has been undertaken in order to determine the nature of energy ecology in the developed and developing agricultural systems, to measure energy ratio and productivity in different farming systems overtime (1950-1980) and across different crops and thus work and the energy balance (done by measuring energy inflows and outflows). This in turn is used to determine the energy efficinency. The different farming systems covered include U S., France and India along with a case study of Karnataka. This is followed by a micro level energy ecology

The author's conclusion of energy of being the limiting factor in agricultural development factifies the view of appropriate and efficient technology augmentation. Diversity in the energy ratios over regions implies that in order to optimise the situation energy should be transferred from high intensity to low intensity areas. As this would be a difficult proposition, emphasis should be move on increasing the efficiency all energy sources. Besides efficient technology, the importance of appropriate infrastructural development need to be streassed. In sum, the author feels that the emphasis should be on evolving a better energy ecology and agricultural environment. The appendix on the assessment of farm forestry and bio gas programmes is interesting and informative

In order to make the study more meaningful a statewise analysis for the Indian economy (wherever possible) could be attempted. The study which is very relevant in the preesent state of development and which clearly highlights the nature of the energy problem confirms the in-depth grasp of the-author on the subject of energy analysis or eco-energetics in agriculture. The book however requires some editing due to the presence of typographical errors. A list of bibliography towards the end should prove to be useful.

Urvashi Sadhwani

Jawahar Rozgar Yojana Planning and execution of works

That Village Panchayats can take up works based on the felt-needs of the people.

that plans for development of villages are discussed thoroughly in the meetings of Village Panchayats before final decision is taken.

That Village Panchayats accord approval to the projects only after they are technically appraised and approved by Panchayat Samiti officials.

that District Rural Development Agency/Zila Parishad is the sole authority to accord approval to the project in respect of its share of funds.

that in the work plan of Village Panchayats atleast 50 per cent of the allocation is spent on wages, and 15 per cent exclusively for the benefit of Scheduled Cates/Scheduled Tribes.

that at the district level, District Rural Development Agency/Zila Parishad is responsible for the co-ordination, review, supervision and monitoring of the programme.

that the technical supervision of the programme is the responsibility of the Block Agency/DRDA.

that Village Panchayat appoints a committee to supervise and monitor the implementation of the works.

that both fiscal and financial audit of the works implemented by Village Panchayat is compulsory.

that contractors are not permitted to be engaged for execution of works.

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Central state farm sets record in production of quality seeds

The Central State Farm, Suratgarh, has achieved a record production of seeds during this year. In case of oilseed crop also, the Farm has obtained good results. Under Mustard, 12039 qtls of produce has been obtained from 1059.2 ha. area. Thus the farm has obtained over 1.12 lakh quintals of produce from three corps only leaving aside other crops sown in marginal areas which is a record in itself.

The Farm was established in 1956 over an area of 12,000 hectares-the largest in Asia-under the inspiration of the Prime Minister Pt. Jawahar Lal Nehru. It is a tribute to him that in his centenary year, the farm has set a new record of producing seeds of cereals, pulses and oilseeds. The high yielding varieties of seed produced by the farm is supplied to different States all over the country.

Minor Irrigation Strategies for the VIII Plan

A massive programme for the construction of tube wells, shallow tubewells and borewells is envisaged as part of VIII Plan, strategy to accelerate the development of minor irrigation in the country. According to the recommendations emerging from recent discussions regarding VIII Plan strategies for the water resources sector, drought prone and tribal areas will receive a greater part of the thrust for minor irrigation development.

It has been proposed that the funding system for this sector, which is through land development banks and financial institutions, will be further streamlined to disburse loans to the tune of Rs. 5000 to farmers. Special subsidies to tribal farmers may be increased to enable them to benefit from the centrally sponsored schemes for the economic use of water. These also include schemes for the purchase of drip and sprinkler irrigation systems.

To gear up the existing structures for development of minor irrigation, restoration and desilting of old tanks is proposed to be taken up. It has also been suggested that more intensive monitoring of the minor irrigation schemes in the States will yield results in terms of accelerated development of ground water. According to the proposals made, an irrigation potential of 12.12 million hectares from minor irrigation is targeted for the VIII Plan. Of this 2.11 million hectares would be from surface water and 10.01 million hectares from ground water. □□□

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TRIBAL PLANNING

Yojana

Next issue:
RURAL POVERTY

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Boost to conservation and agriculture

The Central Government has been supplementing the efforts of the states in boosting agricultural production and conservation of the environment. The efforts of the farmers, scientists and the government have not only resulted in record agricultual production but also in an awareness that the same can be sustained only through equally strong efforts to save the environment. In fact our people have by now realised that the cause of most of our national disasters like drought, floods and landslides lies in deforestation, overcultivation, lack of soil and water conservation and the like. Concerted and intensive efforts can definitely stem the rot and enable us to face the challenge posed by a steadily increasing population which can be fed only by an equally steady increase in production while protecting and preserving our natural environment in the meanwhile.

The success of conservation measures however depend on public cooperation and involvement to a very great extent. A tree for a tree-something like a tooth for a tooth-should be our motto. To put it in otherwords we should translate into reality the programme 'one tree for one child'. Trees protect the soil. □□□

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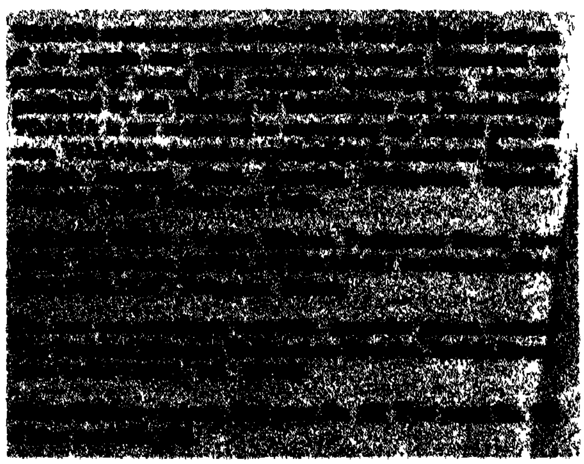
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Impact of tribal welfare programmes

Dr. Biswajit Sen

After analysing the areas of tribal concentration in various States and Union Territories, the author says though there is increased investment in Tribal Sub-plans during the last decade, the quality of tribal life and their socio-economic condition have not improved to the desired extent. The reason, according to the author was that major share of investment was diverted to infrastructural facilities, while a small amount was actually invested on the economic development programmes of the tribals. However the quality of life of tribals can be improved by involving the tribals in the decision-making and implementation level bodies.

THE SCHEDULED TRIBES WHICH numbered 5 38 crores (1981 Census) constitute about 7.85 per cent of the total population of the country and they are concentrated in 25 States and Union Territories In three States (Haryana, Jammu & Kashmir and Punjab) and three Union Territories (Chandigarh, Delhi and Pondicherry) there are no Scheduled Tribes, while in six States and Union Territories (Arunachal Pradesh, Meghalaya, Mizoram, Nagaland, Lakshadweep and Dadra & Nagar Haveli) the tribals are in majority and the entire development plan of those States and Union Territories are primarily meant for the Scheduled Tribe population. 'In 19 States/Union Territories (Andhra Pradesh, Assam, Bihar, Gujarat, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Orissa, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal, Andaman & Nicobar Islands and Daman & Diu) Tribal Sub-Plan (TSP) approach has been adopted. The Tribal Sub-Plan approach which aims at development of the tribal areas with focus on tribal families covers 191 Integrated Tribal Development Projects (ITDPs) with 303 41 lakh tribal population, 263 pockets under Modified Area Develpment Approach (MADA) with 44 93 lakh tribal population, 55 clusters of tribal concentration with 2 05 lakh tribal population and 74 Primitive Tribal Groups with about 15 34 lakh tribal population

About 80 per cent (418.90 lakhs) are concentrated in 8 States (Madhya Pradesh, Orissa, Bihar, Maharashtra, Gujarat, Rajasthan, Andhra Pradesh and Himachal Pradesh) There are about 250 tribal communities who speak about 100 languages/dialects. Some of the tribal communities are numerically very strong like Bhil (52 lakh), Gond (48 lakh). Santhal (36 lakh), Oraon (17 lakh) and Mina (15 lakh) while some are numerically very small like Shompen (214), Jaroa (200), Onge (97), Sentinelese (80) and Great Andamanese (28). A review of distribution of tribal population and their socio-ecnomic condition indicates that the tribals are suffering from divergent problems and two important factors are: (i) development of the major tribal communities in the context of overall development of the non-tribal population at regional and national levels and (ii) survival of the minority tribal communities in the context of major tribal communities and the neighbouring non-tribal population.

Strategies of tribal development

Keeping in view the tribal policy initiated by late

Pandit Jawaharlal Nehru to develop the tribal communities without disturbing their traditional and cultural institutions, the strategy for their development was changed during various Five Year Plans. Up to the end of Fourth Five Year Plan, the tribal development strategy concentrated on community development and tribal development blocks. But during the Fifth Plan, the tribal develop-ment approach was confined to: (i) development of tribals living in concenration and (ii) development of dispersed tribal population

During the Sixth Plan period, the approach was revised with 4 main objectives: (a) family oriented programmes; (b) elimination of exploitation of tribals in the sphere of alientation of land, money lending debt bondage, forest etc, (c) human resource development through education and training programmes, and (d) infrastructure development. During the Seventh Plan all the above mentioned four objectives were retained and consolidated and in addition to those, one more strategy was adopted for the development of vulnerable tribal groups like forest villagers, shifting cultivators, displaced and migrant tribals including tribal women

The Tribal Sub-Plan Programme is being implemented through resources drawn from (a) state Plan; (b) Special Central Assistance provided by the Ministry of Welfare; (c) Central Plan and Centrally Sponsored programmes, and (d) Institutional finance. The investment pattern for the development of tribals during the various plan periods up to the Sixth Plan period* was as follows

(Rupees in crores)

Plan	*Total Plan outlay*	*Tribal Dev programmes*	*Percentage*
First Plan	1960	19 93	1 0
Second Plan	4672	42 92	0 9
Third Plan	8577	50 53	0 6
Annual Plans (1966-69)	6756	32 32	0 5
Fourth Plan	15902	75 00	0 5
Fifth Plan (1974-79)	39322	1102 00	3 01
Sixth Plan (estimated)	97500	5535 00	5 7

°*Source* Report of the Working Group on development of Scheduled Tribes during Seventh Five Year Plan (1985-90), Govt of India, 1984 p 2

It will be evident from the investment pattern made during the Five Year Plans that there has been a spectacular rise of financial investment in the tribal areas from the Fifth Plan onwards. During the Fifth Plan, the total investment was more than Rs. 1, 000 crores while during the Sixth Plan it exceeded Rs. 5,000 crores and during the Seventh Plan it was estimated 13,000 crores*

Impact

(a) Infrastructure Development

This massive investment was directly responsible for development of infrastructure in the tribal areas in the form of roads, building, electricity, drinking water supply, health facilities etc. All these facilities though have not been able to meet the demands of the tribals and much remains to be done to improve such facilities, it cannot be denied that even a decade back, the tribals could not have expected such facilities at their door-step. However, all such investments and development efforts posed two major problems : (i) displacement of tribals from their original habitations; and (ii) exposure to exploitation by external agents. Although there is a clear direction under the Constitution of India (Article 46) that prevention and elimination of exploitation should be ensured and socio-economic development should be accelerated, it has not been possible for the Central Government as well as the State Governments to check exploitation primarily in the fields of land alienated, indebtedness, money lending and forest rights. There are other important provisions in the Articles 164, 244, 244 (A), 275, 330, 332, 334, 335, 338, 339, 342 and Fifth & Sixth Schedules of the Constitution which aim at development and protection of interest of the tribals

While the Tribal Sub-Plans show increased investment during the last one decade the quality of tribal life and their socio-economic condition have not improved to the desired extent. The main factor was that major share of investment was diverted for infrastructure development, maintenance of staff, maintenance of buildings, roads, transport system etc and only a small amount was actually invested on the economic development programmes. In some parts of the country, particularly in the central tribal belt and hill tracts of West Bengal, Bihar, Orissa and Andhra Pradesh, there has been discontentment among a large section of tribals who are demanding that the tribal development programmes should be handled by the tribals themselves and intervention of the State should be minimum so that they are able to decide their own strategies and priorities and ensure that major share of the investment reach the deserving tribal beneficiaries.

(b) Family beneficiary programmes

Under 20- Point Programme (Point 11 (b)) special thrust has been given for economic benefit to the Scheduled Tribe families. The figure relating to number of Scheduled Tribe familes below the proverty line is not available. However, a rough estimate made in another context by the Planning Commission indicates that about 59% of the Scheduled Tribe population in the rural areas were below the poverty line in 1983-84. This estimate was based on consumption expenditure and not on income data. As per 1981 census, the population of Scheduled Tribes in 19 TSP States/UTs was 510.62 lakhs, Considering the fact that average number of members per Scheduled Tribe household would be five, there would be about 100 lakh Scheduled Tribe families. Of this number about 77 lakh Scheduled

Tribe families would be assisted up to the end of the Seventh Plan.

The exact figures about the number of Scheduled Tribe families that crossed poverty line during the Seventh Five Year Plan is not available but one evaluation of IRDP indicates that about 5% of the Scheduled Tribe families assisted under IRDP have crossed the revised poverty line of Rs 6,400 income per annum. It has been estimated that to enable a tribal family to cross 'the poverty line, the total investment at the current prices would be about Rs. 8,000 per family while per capita investment on Scheduled Tribe families under the IRDP during the period 1985-88 was only Rs. 3,480.

(c) Development of Education

The importance of education for the overall development of the tribals has been emphasised by all the Commissions and Committees set up from time to time. To equip the tribals to meet the challenges, broaden their outlooks and build their inner strength it would be extremely useful to educate them. A review of the position of literacy among the Scheduled Tribes reveal that there has been increase in percentage (1961 Census-8.54%, 1971 Census-11.29% and 1981 Census-16 35%) The total literacy percentage for the country as a whole was 36.2 while; the ST literacy was 16.35 only. The gap between literacy rates among STs and non-SC/ST communities has been increasing which will be evident from the following:

	1961	1971	1981
Gap between literacy rates among the STs and non-SC/ST communities	19.37%	22.51%	24.95%

The Statewise literacy rates for the STs according to 1981 Census vary considerably and is found to be poor in the States of Andhra Pradesh, Madhya Pradesh, Rajasthan, Orissa and West Bengal. The position relating to literacy among the ST females is also not satisfactory which will be evident from the fact that against the general female literacy rates of 22.25% (1971 Census) and 29.43% (1981 Census), the literacy rates of ST females were 4.85% and 8.04% respectively. Although the rate of growth of female literacy of STs has been showing upward trend, yet the gap in the female literacy rate among the STs and non-SC/ST communities has also increased which will be evident from the fact that in 1971 the gap between female literacy rate among the STs and non-SC/ST communities was 17.40% while in 1981 it increased to 21.39%. The position of literacy rates of ST females has been poor in some of the educationally backward States and in about 130 districts, the literacy rate has been less than 5%. In Rajasthan there are some districts where the female literacy rate is even less than 1%.

The enrolment position of the STs in Primary stages is satisfactory (91.58% during 1985-86) but in Middle and Higher Secondary levels the percentage declined considerably. At Middle level in some States like Bihar, Madhya Pradesh, West Bengal and Andhra Pradesh the enrolment percentage declined to 23.19%, 21.41%, 20.08% and 19.06% respectively (during 1981-82)* The matter needs serious consideration because unless the students are retained in the schools, dropout rates are reduced and they are able to take adequate advantage of the general education system, the entrie development approach may prove to be futile and counter productive

(d) Displacement of Tribals

One alarming feature in the field of tribal development which is creating lot of discontentment among the tribals is the problem of land alientation. There has been large number of cases of alienation of tribal land by non-tribals inspite of the fact that all the tribal majority States have introduced legislations prohibiting transfer of land from tribals to non-tribals and various special measures are being adopted to check alienation of land and restore possession through setting up of Special Courts The situation is quite distarbing in the states of Andhra Pradesh, Bihar, Orissa, Madhya Pradesh, Maharashtra, Gujarat and Tripura The magnitude of the problem will be evident from the following statement*.

Cases of land alienation and their disposal

State	*Cases filed in courts*	*Area (in Acres)*	*Cases decided in favour of tribals*
Andhra Pradesh	43934	188018	37433 (156269 acres)
Bihar	88504	107810	43291 (47882 acres)
Gujarat	20543	24332	16669 (19436 acres)
Madhya Pradesh	99864	—	60801
Maharashtra	50850	—	20400 (104288 acres)
Orissa	62793	-	30595 (35826 acres)
Tripura	20432	44561	4867 (4359 acres)

in some cases where the decisions were made in favour of the tribals, while taking actual possession, the tribals were denied their rights. Besides displacement of tirbals by individuals another disturbing feature has been displacement of tribals on account of various development projects undertaken by the Central and State Governments. The figures available for 5 States are stated on page 10.

The existing Land Acquisition Act does not provide rehabilitation of displaced persons and various guidelines issued by the Ministries/Departments and the Bureau of Public Enterprises are not adequate to protect the interest of the tribals. A comprehensive National policy is being formulated to provide complete socio-eonomic and cultural rehabilitation

(Contd. on page 10)

Role of Co-ops in Tribal economy

Dr. S. Mahalingam

The package of integrated services offered by the co-operatives established in tribal areas have helped the tribal economy to grow. The economically weaker and socially exploited tribals found some solace in the co-operatives which help them to secure loan, market their produce and get agricultural inputs at subsidised rates, says the author. In short the co-operative organisation acts as a beacon light in shaping the rural economy.

INDIA HAS THE LARGEST concentration of tribal population any where in the world except perhaps in Africa. According to 1981 census, the population of the scheduled tribes in the country was 5.16 crores, constituting about 7.76 percent of the total population of approximately one tribesman for every thirteen Indians On the whole it is estimated that the predominant tribal areas comprise of about 15 percent of the total geographical area of the country. The various economic programmes, therefore, have been implemented in the tribal areas by the Union and State Government through different agencies not only to eliminate the above exploitation but also to ensure a faster growth rate of tribal economy.

Tribal development programmes

Tribals in India, geographically and culturally speaking, are at widely different stages of social as well as economic development and their problems differ from area to area and even within their own groups. From historical point of view, the tribal communities were approached in a number of ways by the Government. Initially the Scheduled District Act of 1874 introduced by the British Administrators had kept most of the tribal areas administratively separate. The same situation was allowed to continue under the Government of India Acts of 1919 and 1935 However after independence this policy was abandoned and a new policy of tribal development was initiated For instance, the special multi-purpose tribal blocks and tribal development blocks were started during the second and Third Five Year Plan respectively A number of new programmes were introduced during the fourth plan period, besides intensifying tribal development programmes which were already popular. For the first time, land colonisation schemes, cooperative farming societies and several tribal colonies were all established in most of the tribal areas. Again a new concept of tribal development known as the tribal sub-plan was initiated by the union Government during the Fifth Five Year Plan. During the Sixth Plan, pockets with a total population of 10,000 and more than 50 percent of tribal concentration were delineated under a Modified Area Development Approach (MADA) as part of the Tribal Sub-Plan Startegy. This has been further relaxed to smaller areas with a total population of 5,000 and with more than 50 percent scheduled tribes in the Seventh Plan under a cluster approach. At present tribal Sub-Plan cover 184 Integrated Tribal Development projects, 256 pockets of tribal concentration, 8 clusters and 73 projects for primitive tribal groups covering about 5.01 lakh Sq. k.m. and catering to a scheduled tribe population of 372 lakhs in 19 states and Union Territories. For the Seventh Plan period, 40 lakh scheduled tribe families below the poverty line are targeted to be provided economic assistance. In the first year of 7th Plan period (1985-86) as against the target of assisting 8,43,537 scheduled tribe families, 8,73,100 families were assisted The total investment made in the tribal areas during the plan periods for economic betterment of tribal communities in the country is stated in Table-2 As compared with the First Five Year Plan, the total investment made for tribal development programmes has been increased

from 59 times in the Fifth Plan to 276 times in the Sixth plan and further increased to 600 times in the Seventh Plan as a result of operation of new strategy on Tribal Sub- plan to improve the quality of living in the tribal areas.

Table I

Plan outlay and expenditure for tribal development programmes in India

(Rs. In crores)

Sl No	*Plan Period*		*Total Plan outlay*	*Tribal Development Programme*	*Percentage*
1	2	3	4	5	
1	First Plan	(*)	1,960	19,93	1 00
2	Second Plan	(*)	4,672	42,92	0 90
3	Third Plan	(*)	8,577	50,53	0 60
4	Annual Plans	( )	6,756	32 32	0 50
5	Fourth Plan	(**)	15,902	75 00	0 50
6	Fifth Plan	(**)	39 322	1,182 00	3 01
7	Sixth Plan	(**)	97,500	5,535 00	5 67
8.	Seventh Plan	(**)	1,80,000	12,000 00	6 67

Note: Expenditure (*) OUTLAY (**)

Source: Ministry of Home Affairs, *Occasional Papers on Tribal Development*, 1986, pp. 19-24

Cooperative approach for tribal development

Broadly speaking the tribals are economically weak and socially exploited by the middleman, money lenders and petty traders due to insufficient institutional arrangements for providing credit and for marketing of agricultural and forest produce in the tribal areas. Therefore, sincere efforts have been made by our planners to organise and develop the cooperatives in the tribal areas to speed up tribal development in order to bring them on par with the more advanced sections of the population. In this connection, various committee and study teams such as A special working group on Cooperation for Backward Classes (1961), Report of the Committee on Tribal Economy in Forest Areas (1962), A study Team on Cooperative structure in Tribal Development Project Areas (1971), study Group on Relief of Indebtedness, Land Alienation and Restoration in Tribal Development Agency Areas (1973) and A study Team on marketing, credit and co-operation in tribal areas (1978) have all repeatedly emphasised the significance of cooperativisation of the tribal economy in the country. In Order to improve the Operational efficiency of cooperatives in the tribal areas, A committee on Cooperative structure in Tribal Areas (1971) has recommended the organisation of new pattern of Integrated credit-cum-marketing cooperative societies (LAMPS) at the primary level. Accordingly, the Government of India advised the State Governments to organise above type of LAMP societies in the tribal areas and each LAMP society was expected to cover an average of 10,000 to 20,000 population As a result the various State Governments and Union Territories have organised about 2650 cooperatives by the end of 30th June, 1985. However, many States have setup LAMPS some primary cooperative secieties still to exist along side LAMPS. For instance, in Gujarat FSS are being continued in the tribal areas because of some legal problems. In Andhra Pradesh, the pattern of LAMPS has not been adopted on the ground that the Girijans' cooperatives exist in tribal areas. In Rajasthan, PACS continue in some areas while in some other areas LAMPS have been innovated. And also in Maharashtra, Adivasi cooperatives have been set up in the hill and tribal areas with broadly the same functions as LAMPS

About 35 percent of the total tribal cooperatives in the country have been organised in Madhaya Pradesh alone. In addition, the States of Bihar, Maharashtra, Rajasthan and Orissa also organised a good number of tribal cooperatives viz., 474, 275, 261, and 222 respectively in their states to render the integrated services. On the whole about 75.25 percent of the total LAMPS/PACS (2291 LAMPS) in our country have been organised in the above States. At the State level the State Governments were asked to organise Tribal Development Corporation/Federations to give marketing support to the Primary level Cooperative Societies So far 10 Tribal Development Marketing Corporations/Federations have been organised in Andhra Pradesh, Bihar, Kerala, Madhya Pradesh, Maharashtra, Manipur, Orissa, Rajasthan, Tripura and West Bengal. During the year 1981-82, 1982-83 and 1983-84, these State level Tribal Organisations handled business in agricultural inputs to the extent of Rs. 35 30 crores, Rs. 54.63 crores and Rs. 57 83 crores respectively Recently the Tribal Cooperative Marketing Development Federation (TRIFED) has also been setup at the National level to extend marketing/technical intelligence with other support to these State level Tribal Marketing Federations/ Corporations.

Integrated services of cooperative organisations

Truely speaking, the tribal cooperatives organised in the hill and tribal areas are expected to bring the entire tribal population under one fold by meeting their production, consumption, marketing and social needs It is precisely noted that enrolment of scheduled tribes in these cooperatives has increased from 3.98 million in 1978-79, 4 12 million in 1979-80, 4 30 million in 1980-81, 4.95 million in 1983-84 to 5.74 million in 1984-85 Some of the unique services rendered by the Cooperatives in the tribal belts are discussed below

(a) Supply of concessional finance

The indebtedness has long been one of the most pressing problems of tribals, because majority of them have been under heavy indebtendness of the money lenders and private traders. The burden of this private debt has been passed on from generation

Extent of term loans advanced by copperatives to the Tribals

Sl.No.	Year	Advance ST	Advance MT	Advance Total	Outstanding ST	Outstanding MT	Outstanding Total	Overdues ST	Overdues MT	Overdues Total
1.	1978-79	37 76	8.64	46.40	59 90	17 92	77 82	30 96	6.81	37.77
		(81.38)	(18.62)	(100 00)	(76.97)	(23 03)	(100 00)	(81 97)	(18 03)	(100 00)
2	1979-80	40 03	14 78	54 82	64 81	25 33	90 14	34.07	8 17	42.24
		(73 02)	(26 98)	(100.00)	(71 90)	(28 10)	(100 00)	(80 66)	(19 34)	(100.00)
3.	1983-84	54.50	17.90	74 40	37.23	42.03	79 26	50 51	19 42	69.93
		(73.25)	(26 75)	(100 00)	(46.97)	(53 03)	(100 00)	(72 23)	(27 77)	(100.00)
4	1984-85	70 63	19 65	90.28	110 70	53 56	164 26	58 30	23 65	81 95
		(78 23)	(21.77)	(100.00)	(67 39)	(32 61)	(100.00)	(71 13)	(28.88)	(100 00)
		202 92	60 98	263 90	272 64	138.84	411 48	173 84	58 05	231 89
Total		(76 89)	(23.11)	(100 00)	(66 26)	(33 74)	(100.00)	(74 97)	(25 03)	(100.00)

ST Short Term
MT Medium Term

Note Figures in Parenthesis represent the percentages to row total

Source. Ministrt of Agriculture, *Cooperative Movement in India-A Statistical Profile*, 1987, pp 10-11

to generation in as much as the principal and interest went on increasing for most of the debt has been unproductive. Therefore arrangement of adequate finance for productive purpose through a unified cooperative credit structure is considered as a unique service for the balanced development of the tribal economy Even though there are various agencies involved in providing tribal credit, cooperatives continue to play a dominant role in the tribal areas by granting concessional finance to the tribals which include short term, medium term and consumption loans to carry on their agricultural operations, allied activities and to meet other social purpose respectively at a differential rate of 4 percent per annum. The Total value of term loans advanced, amount outstanding and overdue position of borrowers over the years are explained in the above Table. It would be observed from the table that there has been a secular upward trend in respect of term loans advanced by the cooperatives. on the whole short term loan accounted for the major share (76 89%) followed by medium term loans (23.11%). As far as recovery rate of the term loans is concerned, the recovery rate was relatively better in the medium term loans than in the short term loans i.e, 81.97%, 80.66%, 72.23% and 71.14% in 1978-79 in 1979-80, in 1983-84 and in 1984-85 respectively. This may be due to the fact that the demand in respect of medium term loan dues of the first two years have been adjusted from the subsidy amount sanctioned subseqently to the loanee by the State Government.

(b) Marketing of Tribal Produce

One of the cardinal objectives of the cooperatives in tribal areas is to procure minor forest produce and agricultural produce from the tribals at remunerative price and also to undertake the marketing function not only to narrow down the price spread between the tribal producers and the non tribal consumers but also try to eliminate the exploitative and non-functional martins of the traders and commission agents in the tribal markets. Such an approach would engender confidence of tribal communities in cooperatives Infact, entry of

Value of Tribal produce marketed by the cooperatives

Sl	Year	Lampa/Pace Agricul-tural produce	Lampa/Pace Minor Forest produce	Lampa/Pace Total Market value	Tribal development cooperative fedrations Agricul-tural produce	Tribal development cooperative fedrations Minor Forest produce	Tribal development cooperative fedrations Total Market Value
1	2	3	4	5.	6	7	8
1	1981-82	2002 84	2295 64	4298 48	1844 58	547 49	2392 07
		(46 59)	(53 41)	(100 00)	(77 11)	(22 89)	(100 00)
2	1982-83	2078 68	2435 85	4514 53	2515 20	1499 12	4014 32
		(46 04)	(53 96)	(100 00)	(62 66)	(37 34)	(100 00)
3	1983-84	2089 52	2466 29	4555 81	1750 72	2368 31	4119 03
		(45.86)	(54 14)	(100 00)	(42 50)	(57 50)	(100 00)
		6171 04	7197 78	13368 82	6110 50	4414 92	10625 42
	Total	(46 16)	(53 84)	(100 00)	(58 08)	(41 95)	(100 00)

Note Figures in parenthesis indicate the percentages to row total
Source: National Cooperative Development Corporation, *Procurement and processing of Minor Forest Produce-Strategy during VIIth Plan*, New.Delhi, 1987 p 4

cooperatives in the tribal market has enabled the scheduled tribes to secure a more lucrative price for their produce, since profit motive is not the guiding principle of cooperative organisation. The total value of tribal produce marketed by the cooperatives both at grassroot and state level over the years are shown in the above Table.

The total value of tribal produce marketed by tribal cooperatives between 1981-82 and 1983-84 had increased to the extent of Rs. 1726.96 lakhs at the State level and Rs. 257.33 lakhs at the primary level On an average, sale of minor forest produce claimed a major share (53.84%) followed by agricultural produce (46.16%) in the LAMPS/PACS, where-as marketing of agricultural produce accounted for the major share (58.05%) followed by minor forest produce (41.95%) in the tribal federations.

(C) Distribution of Consumer Articles

Another unique function of the tribal cooperatives is the sale of essential consumer necessities through the village shops established bythese cooperatives in the tribal belts.

In value terms, the distribution of consumer goods through the Village shops by the tribal cooperatives has increased over the year which amounted to Rs. 4731.65 lakhs a year in 1983-84 at the primary level and Rs. 1483.10 lakhs a year at the State level tribal federation. It may be noted that there was a significant growth rate of distribution function both in the LAMPS/PACS (11.08%) and in the tribal federations (28.67%) during 1982-83. This impressive performance of the cooperatives could imply that there was generally a very high level participation of tribals in purchasing their necessities from the cooperatives

(d) Supply of Agricultural Inputs

The fundamental aim of supply of agricultural inputs by cooperatives was therefore, to increase agricultural production and to remedy the imbalances existing between different sections of the tribal community and tribal region. The value of agricultural inputs supplied at subsidised cost to the tribals is pointed out in the above Table.

On the whole, the performance of LAMPS/PACS and tribal federations in the supply of agricultural inputs to the tribal farmers was not totally disappointing. As far as annual growth rate of inputs supply is concerned, it was relatively higher i.e., 13 92% in 1982-83 and 59.35% in 1983-84 in the State level federations than in the primary level coopratives

Value of Agricultural requisites supplied by the cooperatives

(Rs. in lakhs)

LAMPS/PACS				Tribal development cooperative federations	
Sl. No.	Year	Amount	Annual growth rate (5)	Amount	Annual growth rate (%)
1	2	3	4	5	6
1	1981-82	2345.96	—	99.16	—
2	1982-83	2429.96	3 58	112 96	13 92
3.	1983-84	2482.81	2.18	180.00	59.35
Total:		7258.69	—	392 12	

Source : National Cooperative Development Corporation *Procurement Processing and Marketing of minor Forest Produce-Strategy during VII plan. New Delhi, 1987 p.4.*

Conclusion

Infact a package of integrated services offered by the cooperatives is the basic support for the tribals around which the tribal economy tends to grow. Sociologically, it is contended that the nature and life of tribals are governed through undefined principles of cooperation. From economical point of view, cooperatives embrace all the avenues of economic development such as agriculture, animal husbandry, forest and processing, consumer goods as well as other village industries and handicrafts as a part of an integrated programme of economic development of tribals. Hence, cooperatives can form the ideal organisational setup inthe tribal areas to act as a beacon light in toning up the tribal economy. □□□

(Contd. from page 6)

State	Extent of Submersion/Displacement Area (in Hecs.)	Total No. of familes	No. of ST families
1 Madhya Pradesh (5 Projects	40356 79	49212	26125
2 Gujarat (6 Projects)	23155 55	8050	7223
3 Orissa (3 Projects)	26583 00	6193	5741
4 Maharashtra (2 Projects)	12103 00	3828	2832
5 Rajasthan (1 Project)	1014 70	67	63

°*Source* . Report of the Working Group on Development of Scheduled Tribes During Seventh Five Year Plan, Ministry of Home Affairs, 1984 pp 258-61

of displaced tribals and unless it is made fool-proof and aimed at protection and promotion of the interest of the tribals, it would be difficult to ensure justice to them

There is no single or simple formula to develop a vast majority of less-developed tribals who remained backward for centuries. However, the process can be strengthened with adquate involvement of the tribals in the decision and implementation level bodies.

Tribal economy

DR. (Mrs). I.K. Barthakur

THE WORD 'TRIBAL' SUGGESTS different images to different people. One image is of simple folk living in the hills and forests. Others recognise the vitality and colour in their culture, especially, in their dances and their songs There are other images that are held by anthropologists and others. The tribal people, by and large, had lived in isolation but in cohesive community groups

Immediately after the Independence, it was recognised that certain communities needed special attention for their protection and development. The Constitution made special provisions, for what came to be known as Scheduled Castes and Scheduled Tribes This is evident in various Articles of the Constitution that directly carry the provisions, that guide welfare measures, safeguards and promote their interests, and provide various protections Perhaps, the most important was their recognition by sensitive observers like our first Prime Minister, Pandit Jawaharlal Nehru. In the early 1950's itself, Pandit Nehru had expressed his deep concern when he said :

> "We cannot allow matters to drift in the tribal areas or just not take interest in them In the world of today, that is not possible or desirable. At the same time, we should avoid over-administering these areas and, in particular, sending too many outsiders into tribal territory. It is between these two extreme positions that we have to function."

Five principles

The tribal societies have retained, in many cases, institutions of self-government and self-regulation of society which have decayed in the rest of the country Both, the first Prime Minister Pandit Jawaharlal Nehru and Shri Rajiv Gandhi drew attention to the need for building on the foundations of these institutions which were founded on basic tribal concepts regarding relationship with land and its resources. Pandit Nehru spelt out the basic strategy for the development of the tribal people, which in official circles are popularly known as 'five principles', that is, people should develop along the lines of their own genius; tribal rights in land and forests should be respected; we should train and build-up a team of their own and avoid introducing too many outsiders into tribal territory; we should not over-administer these areas or overwhelm them with a multiplicity of schemes We should rather work through, and not in rivalry to their own social & cultural institutions, we should judge results, not by statistics or the amount of money spent, but by the quality of human character that is evolved.

In this light, steps were taken to assist the tribal people to higher levels of social and economic development, which were mainly directed through Tribal Development Blocks. From the Fifth Five Year Plan, intensive efforts towards integrated tribal development were attempted through a new strategy of Tribal Sub-Plan.

The salient features of this strategy were identification of Integrated Tribal Development Projects which took into account, natural resources, skills, aptitudes and felt-needs of the tribal population. Resources were identified from the State and Central Plans and were supplemented by Special Central Assistance and institutional finance. During the Seventh Plan, the flow of funds from the State Plans would amount to more than 7,000 crores of rupees and nearly 860 crores from Special Central Assistance

For development of the tribal people according to their own genius, administrative structure was also conceived

Schemes like post-matric scholarships, Special coaching classes, centres for enhancing their proficiency in mathematics, science subjects, and preparing them for competitive examinations are also operating. Book banks, provide books to medical and enginering students. In the field of eocnomic development, the Minor Forest Produce Corporations, Large Agricultural Multi-purpose Cooperative Societies, the Tribal Cooperative Marketing Development Federation and the recently set up National Scheduled Castes and Scheduled Tribes Finance and Development Corporation, are helping them Under the poverty alleviation programmes, a higher amount of subsidy and loans at a differential rate of 4 per cent interest are extended. For tribal areas, norms are relaxed for setting up of Primary Health Centres, Sub-Centres, educational institutions and construction of rural roads

The Scheduled Tribes' literacy rates are lower than the all-India average, but are making rapid progress. *However, the female literacy rates continues to be much lower than the general literacy rates.* Therefore, spcial attention is being paid. *Separate hostels for girls, in addition to Ashram type residential schools, have been set up.* Tribal students are given educational incentives like scholarships, unforms, stationery and midday meals.

It is impressive to not that one and a half lakh scheduled tribe students are receiving post matric scholarships now, whereas, it was only 33 thousands in 1970-71.

Tribal Panchayats

In recent years, the Prime Minister, Shri Rajiv Gandhi toured the tirbal areas extensively and posed searching questions about the fruits of development that have reached the tribal people He recognised the inherent value of the traditional systems and commented while discussing Panchayati Raj for Scheduled Tribes, that:

"It is of utmost importance that in our task of handing over power to you, we in no way disturb the tribal traditions. When I talk about the tribal traditions, I mean the *existing* tribal Panchayat system. In this connection, we have to consider the bigger structure in which the existing tribal panchayats could be integrated without in any way disturbing them. Tribals are facing certain special problems and we have to help them to solve these problems in an effective manner. It is not enough to earmark outlays for them out of developmental plans as, in this process, there will neither be tribal initative nor consultation with them. Old traditions will thus get lost. In order to protect the existing tribal traditions, we have to carefully consider the manner in which you could be given more powers."

Action plan

An Action Plan to develop eleven thousand Scheduled Caste and Scheduled Tribe habitations was announced by the Prime Minsiter. The package programme consists of handpump or open well, school building, street lighting and domestic connections, irrigation wells etc. Bill to prevent atrocities against Scheduled Tribes has already been passed by the Parliament

A broad picture of progress among the tribal community shows striking successes among some of them and immense amount of work still require amongst the others. In particular, the cardinal principle, that, tribal rights in land and forests must be respected, needs continuous watch There are many ways in which these can be eroded. This resource has to be protected

One of the most notable success stories in building of tribal institutions is the emergence of Village Development Board, commonly called VDBs in Nagaland. Each Village Board is allowed a specific amount per household to be pooled into a common fund at village level. Out of the portfolio of a large number of listed model schemes *considered relevant to village conditions,* the VDBs select and implement their schemes They act under the control of traditional village authority It is noteworthy that one-fourth of the funds go towards women and child development

This *experience arouses hope* that other communities too can devise their own measures suited to their own conditions. This is in line with *Gandhiji's thinking about strong self-sufficient* village economies. There can be no let up in our efforts until each tribal community can be shown to *have reached equality with basic national* indices like infant mortality, nutritional levels, life expectancy, literacy-especially, female literacy, and *representation at higher levels in all technical* and other fields. Above all, these efforts are only the means to an end—to help the emergence of healthy talent that can take over responsibilities at village and other levels for sustained economic growth. Only then, will local initiative, based on sound tradition, *in harmony with their* environment, and with true understanding of the modern approach towards ecology, will emerge. This is the true aim of tribal development which transcends the colourful and the picturesque. Colour and vitality will come in the open and flourish in new ways and new climate of economic prosperity.

Courtesy (A.I.R.)

Systematic planning for tribal welfare

Subah Singh Yadav & Mahabilesh Raj

The tribal population in different parts of Rajasthan experience many problems. To alleviate their sufferings, the government has adopted a strategy and ever since the launching of the Seventh Plan, significant progress has been made in this direction. To improve the life of the tribals further, what is needed now is a systematic and comprehensive planning of the various activities in tribal areas, say the authors.

RAJASTHAN HAS TRIBAL POPULATION of 41.83 lakhs (1981 census) consisting 12.20% of the State's population Banswara, Dungarpur districts, 7 blocks of Udaipur district, 2 blocks of Chittorgarh district and one block of Sirohi district have heavy concentration of tribal population in all accounting 27.57 lakhs living in 4409 villages. This area is known as Tribal sub-plan area, stretching over 5.77% of the total area of Rajasthan and 8.03% of the population. The Tribal Sub Plan contains 43.75 % of the states tribal population. Major tribal groups living in this are Bhils, Damors and Graasia. In addition to this Sub Plan area, there are 44 pockets of tribal concentration spread over 3175 villages in 13 districts which have been termed as Modified Area Development Approach blocks. The tribal population of these pockets is 9.85 lakhs constituting 23.56% of the tribal population of the entire state. There are 3385 villages having 17.35 lakhs population in 44 MADA blocks

Recently some more plans have been devised. Thus the total coverage of tribal population under TSP, MADA, MADA Clusters and Saharia development project is 68.94%. Remaining tribal population (31.06%) is scattered over 25 districts of the state. From 1986-87 they have also been brought under programmes funded under SCA. (Special central Assistance)

marked disparity

There is a marked disparity in the economic standards of tribals livings in the areas of their concentration compared to the people in the surrounding areas. This disparity in the standard is well discernible in tems of pattern and productivity of Agriculture and receptivity of modern techniques, size of holdings, the per capita income, quantum of unemployment as well as absence of market and marketing facilities and scope for subsidiary occupations. In some tribal regions the problem of unemployment is quite serious, as a result of depletion of resources in other areas. The major constraints in full utilization of resources are sociological and technological factors. Here the effective utilization of manpower may not be more than 200 mandays in a year

Tribals have experienced many problems in the different parts of the state Major amongst them are exploitation by middlemen and commercial forces in procurement of minor forest produce and sale of essential commodities, land alineation, money lending or astronomical rates of interest; widespread indebtedness, bondage and discriminatory excise and forest policies, sometimes even their survival is at stake.

These miseries are compounded by high rate of population growth, small size of land holdings, low rate of literacy, fast depleting forest wealth, insufficient infrastructure and low level of social services. There is another category of tribals who are totally uprooted from their native abodes either due to forceful eviction by non-tribals or displaced due to major industrial and irrigation projects.

Objectives of the strategy

The strategy adopted for tribal development in the state aims at attaining the following major objectives —

1 A progressive reduction in the incidence of poverty and unemployment.
2 A reduction in the inequalities of income and wealth
3 Improving quality of life through minimum needs programmes
4 Infrastructural development for fuller exploitation of potential of tribal regions.
5 Building up infrastructure in tribal areas Tribal development focussing on individual families
6 Development of human resources through education and training.
7 Expansion of credit and marketing net work throught co-operatives
8 Prevention of exploitation of tribals

Although all round development was observed in the sphere of tribal welfare programmes during the sixth plan by raising financial allocation yet the economic conditions of the tribals continue to be precarious Subsistence agriculture, Heavy soil erosion and falling water table, low productivity in agriculture, massive deforestation, information gap about family beneficiary programmes, low level of farm technology etc are some of the important factors, inhibiting the development of tribals so much so that even after 38 years of economic development, they continue to be backward.

In the context of aforesaid problems, the seventh five year plan for the TSP areas has kept the following objectives

1 Removal of gaps in infrastructure
2 Poverty amelioration by focussing on family oriented schemes
3 Protection against exploitation
4 Human Resources development by way of education & social facility·
5 Low volume and high value agriculture, expansion of sericulture, introduction of new crops like castor and soyabeen, intensive cultivation of fruit tree adopting culster approach, using social animators for transfer of technology and Ber budding on a massive scale
6 Afforestation and waste land development
·7 Improvement of cattle breed.
8: Eradication of guines worm.

In tribal sub-plan area, a total provision of Rs 601.45 crores has been made for the implementation of various schemes during VII Plan (including provision of State Plan and special central assistance) A target of benifitting 3 lac tribal families has been fixed during the VII plan under various beneficiary schemes.

Since the launching of VII Plan 107361 Hect land was brought under high Yielding variety programmes in TSP area 35045 tonnes chemical fertiliser and 18366 M Tonnes improved seeds were supplied. 448 villages were energised, 200 KMs. roads were constructed and 63 primary schools were opened 622 villages were supplied safe and potable water.

There is also an increase of 48.74 percent allocation for the various development schemes of tribals in TSP area in State's Seventh Plan as compared to Sixth plan

Major thrust

During 1989-90 emphasis will be given on the following items.

1 Savings of State plan funds would be used to ensure compliance, of supplementation of tribal development scheme
2 Making special selection of Officers for better implementation of scheme in tribal Area Development Department
3 Introduction of innovative scheme for economic upliftment of tribals
4 Equalisation of infrastructure of block level by the end of seventh plan
5 Development of human resources through vocational training, pre-service coaching, remedial coaching, summer coaching and other trainings.
7 Bringing social and economic awareness among tribals through chetna camps, pad yatras and contact through animators.
8 Providing irrigation facilities through lift irrigation, deepening of wells, distribution of diessel pump sets etc
9 Adoption of low volume and high value technique of agriculture.
10 Improvement of breed of universals.
11 Saving of tribals from exploitation by local traders and sahukars.
11 Reducing the size of tribal family norms

The tribal sub-plans are basically area based programmes with a focus on the development of tribal communication The weaker section within the tribal groups has, however, not received sufficient attention. It should be our endeavour to indentify these groups and reorient these programmes so that the fruits of development could reach the intended beneficiaries. Different thrust areas for different regions can also be identified Some of the more prominent thrust areas such as shifting cultivation, horticulture credit-cum-marketing, minor irrigation, forestry development programmes, programmes for landless, pasture development, animal husbandry and education have been identified after a review of State Government's efforts in implementation of sub-plans. Primitive communities are intended to receive sufficient attention under these programmes and several sub-programmes to be built around them

The large scale industrialisation process in the economy has inevitably led to the reduction in the

(Contd. on page 27)

Jhumming needs control

B.K. Paul

The author writes about the age-old pernicious practice of Jhumming i.e. the unorganised or shifting cultivation mostly prevalent in the north-east India and expresses the view that efforts hitherto have been made aim at eradicating or replacing Jhumming rather than controlling it. He suggests evolution of suitable technologies for modification of Jhumming itself and proper settlement of Jhumias.

OUT OF THE TOTAL GEOGRAPHICAL area of about 25 50 million hectares in the north-east India, as much as 2.70 million hectares are estimated to be under the perpetually pernicious practice of shifting cultivation, popularly known as *jhumming*. This 'slash and burn' practice has been in vogue in almost all the tribal areas in the country, but nowhere its effect appears to be as grim as it is in the north-eastern region, where as many as 4.50 lakh tribal families are almost entirely dependent on this practice for their survival

The genesis

The genesis of this age-old practice can be traced to the evolution of a method of cultivation in the hilly terrains of different States in this region as a reflex action to the surrounding ecology. The practice has grown out of a sort of primitive work-ethic, but more due to compulsion of circumstances for survival of rural tribals. It has been recognized by the experts that the practice of *jhum* cultivation marked the beginning of an orderly way of life in the mattr of food among the tribals This change from crude primitivity in deep jungles to enlightened and organised agricultural practice involving community farming has been described as symbolic of a great social transformation among the tribal people of the north-east Thus, *jhumming* can now be considered as a socio-economic and socio-cultural phenomenon bringing into its fold prblems of wide ramification and adverse impact on economy as well as ecology

Present scenario

According to available estimates, outside Assam and Tripura, which have large areas under settled cultivation, more than half the net area sown in the region consisted of *jhum* plots in 1974 As per the Union Ministry of Agriculture Task Force Estimate of 1983, which happens to be the latest authentic estimate, out of 4 32 lakh sq km forest area of the north-eastern region, the annual area brought under shifting cultivation is 4 7 thousand sq km and the minimum area under such practice at any one point of time is almost 13 3 thousand sq. km. (10 5 percent of total forest area) The situation during subsequent years has deteriorated further. The recent remote sensing survey of NRSA indicates that the alarming rate of deforestation in the north-east due to *jhumming*, will render the entire region barren by the next 50 years, unless some crash programme on afforestation is teken up. During the Conference on Shifting Cultivation recently held at Shillong, it was revealed that it will need 120 years to settle all the 70,000 *jhumia* families in the state at the rate of only 3,000 families in every five years, as envisaged under present programme This speaks volumes about the need for cool calculation towards a pragmatic approach.

The peculiar geographical location, topograrhical variations and traditional socio-economic factors have been vary stubbornly standing in the way of more settled modern way of cultivation in the hills of the north-eastern region, and *jhumming* still continues to remain not only as the main way of agricultural practice but also as the major economic activity of the tribal people in the region

Jhum control

Everybody appears to be one with the view that the pernicious practice of *jhumming* should be done away with. Various government and other agencies have been laying more and more stress on modernising the age-old methods of cultivation prevalent in this region, including *jhumming*. All have been talking repeatedly about controlling the *jhumming* but efforts made so far can be termed as eradication or replacement of *jhumming*, rather than controlling it, with organized settled cultivation requiring use of more sophisticated tools and practices and artificial fertilizers and manures, in place of traditional tools made out of bamboo and rejected parts of house-hold implements of the tribals and natural manures like ash and decomposed plant matters

The first practical attempt to tackle the problems of *jhumming* in north-east India was made by the government of Assam by way of introducing various plantation crops, such as, rubber, coffee, black pepper and cashewnut to attract the tribal farmer for economic gains. During the Fifth Five Year Plan period, a comprehensive programme was launched in a three-pronged manner which envisaged soil conservation shemes under State Plan, centrally sponsored pilot projects and Regional River basin schemes sponsored by the North Eastern Council Despite providing attractive incentives in the form of assistance for purchase of bullocks, farm machinery, house construction and other subsidies, the scheme evoked hardly any response among the tribal farmers primarily due to invitation to an abrupt change in socio-cultural life and extreme dearth of trained and dedicated extension workers in remote areas.

As early as in 1953, Mr. M.D Chaturvedi, the then Inspector General of Forests, Government of India, made a thorough investigation of *jhumming* practice in Assam (which included present Meghalaya, Mizoram and Nagaland) and observed that the 'notion widely held that shifting cultivation is responsible mainly for large scale erosion needs to be effectively dispelled' and he boldly declared that the 'correct approach to the problem of *jhumming* lies in accepting it as an agricultural practice involved as a reflex to the physiographical character of the land, and not as a necessary evil.'

Until very recently, all efforts towards controlling *jhumming* were the monopoly of mostly the anthropologists and the economists. Systematic scientific efforts towards studying all aspects of *jhumming*, in the north eastern hills was initiated in 1975 by the ICAR Research Complex for the North Eastern Hill Region, and a five year experimental programme was launched, in a limited area of Meghalaya, which included studies concerning diverse disciplines such as, economy ecology, land erosion, land-use pattern soil fertility, tools and implements, pests and diseases etc. The study finally came out with a model of "Agro-horti-silvi-pastoral" system as an alternative to shifing cultivation. This model broadly suggests agriculture in bench terraces, horticulture in mid-terraces and forestry crops in upper hill slopes, and it is said to be 'technologically feasible, economically viable, ecologically sound and socially acceptable' But the fact is that out of about 10,000 families trying to adopt this model, only about 300 families ultimately stuck to this newly found method.

The moot question is "why" ? It has been reported by the same group of researchers that the model, which is claimed to have least interference with socio-cultural system of the tribals, is not applicable in all situations and the land use system requires modifications depending upon the circumstances. Here lies the crux of the problem Although the degree of *jhumming practice varies from state to* state in the region, the modalities of the practice remain more or less the same everywhere with mixed cropping to sustain a whole family with least botheration about newer tools and implements and about the variations needed under different situations. The fact that any new innovation, however meritorious this may be, needs painstaking efforts to achieve its social acceptability has yet to receive due recognition. This is more true for a tribal society, which is not used to accept without hesitation even a simple thing like a modern road in its locality Those who are familiar with the raditional tribal way of living and thinking, will have to accept the fact that selfless strenous efforts are required to proagate any new idea amongst the tribal masses and this effort needs to be given the first priority. Since this priority has yet to get pin-pointed, all our efforts made so far to modernize shifiting cultivation has yet to become popular with the people concerned.

Moreover, it appears that sometime we started popularising a new practice before it attained perfection in the sense of social acceptability. Terrace cultivation as an alternative to *jhumming* had been abandoned by many enthusiastic tribal farmers for the simple reason that they could not find the new practice more advantageous in so far as the soil fertility, crop disease and pest infestations are concerned Rather, they started feeling tremendously bothered about attack of newer types of diseases and pests in the crops grown under terrace cultivation programme, which could be combated and controlled only by application of artificial fertilizers and pesticides, where they are least adept and where there has been little efforts towards generating the requisite degree of knowledge and skill.

Another factor is the recommendation for introducing so called high-yielding crops, which again needs painstacking efforts for popularization among the tribals. The improvised tools and implements, and also use of bullocks are factors that keep away attraction of the traditional *jhumias*.

Conclusion

The Ministry of Welfare, Government of India, is

(Contd. on page 34)

Tribal planning in Himachal Pradesh

Mary Parmar

The economy of the tribal areas in Himachal Pradesh is highly agro-pastoral. The Tribal Sub-planning is highly decentralised and a plan formulated is as good as implemented says the author. With prolonged winter and inhospitable climate, the Himachal Tribal Plans have been more or less in success story claims the author. However tribal planning is not cent percent success in this State, says the author.

THE TRIBAL AREAS CONSTITUTE a very significant part of backward areas of the country The areas covered by the tribal sub-plan comprise 15 percent of the total area of the country and 7.63 percent of the total population The need for a special strategy of development of tribal areas was recognised early When the community Development Programmes was launched in 1952, a concept equally applicable to the tribal areas, it was found that the task was much more difficult in the tribal areas as they comprised sparsely populated hill and forest regions with poor communications and limited institutional infra-structure, thus requiring greater investment and personal attention by extension workers. It was, therefore, decided to supplement the community development programmes in the tribal areas, 43 special multi-purpose Tribal Development Projects were started during 1954 for this purpose.

It was during the second plan that Tribal Development Blocks were started which was a modified version of the earlier effort. Further impetus was given to the programme during the Third Plan when areas with more than 2/3 tribal concentration were taken into its fold.

The Fifth Plan marked a great divide in the planning process when within framework of the main plan, the concept of sub-plan was evolved.

Tribal Plans in Himachal Pradesh

In Himachal Pradesh, tribal areas together constitute 42 49 percent of the total area and 3 13 percent of the total population of the State. The tribal areas are the most sparsely populated with the density of population ranging between 1 to 16 persons per sq. kms. average being 6 as compared to that of 77 for the State

The scheduled area is co-terminus with the tribal areas in the Pradesh. This scheduled area is situated in a contiguous belt in the north and north-east of the Pradesh and lies in the remotest and inaccessible hinterland with the result that per unit cost of providing infra-structure is exorbitant. The tribes that inhabit the Pradesh are the Bhot, Bodh, Gaddi, Gujjar, Jad Lamba Khampa, Kannaura, Lahuala, Pangwala, Swagla The economy of the tribal areas is highly agro-pastoral

The tribal sub-plan has been in operation in the Pradesh since the inception of the Fifth Five Year Plan However, the seeds of Tribal sub-Plan was already in germination in the State as the district of Kinnaur and Lahaul-Spiti were being given special treatment and outlays for the two districts were segregated separately, a process further strengthened with the introduction of the concept of tribal sub-plans.

The outlays during the different plan period have been as below

Period	*Plan size (lakh Rs) State Plan*	*S.C A*
Fifth Plan (1974-78)	904.81	189 00
Sixth Plan (1980-85)	4747 40	649.00
Seventh Plan (1985-90)	9450 00	. 1200 00 (proposed)
1985-1986	1536.95	192 90
1986-87	1859 50	207 23
1987-88	2025 00	230.0 (proposed)

Planning mechanism

9 percent of the State Plan flows to the Tribal sub-plan which is distributed to the 5. I.T.D.P (Integrated Tribal Development Projects) which are the basic unit of planning and implementation in the tribal areas Project Advisory Committees have been constituted for each I T.D P which are broad-based to formulate the basic plan proposals according to their felt needs and within the broad parameters. The sub-plan proposals prepared at the I.T.D.P level and furnished to the heads of departments who build their plans on such proposals and simultaneously furnish draft plan both to the planning Department

and the Tribal Development Department, Himachal Pradesh. The draft is presented to the State Planning Board and after their approval the State plan is submitted to the Planning Commission and the Central Ministries. The Tribal Sub-Plan is finalised at the level of Adviser State Plan.

The Tribal sub-planning is highly decentralised and a plan formulated is as good as implemented Intensive Monitoring and review of plans have resulted in target fulfillment, thus reducing the development gaps. In fact in some major aspect of development, the tribal areas are better placed than the rest of the state as would be evident from the table that follows.

Progress made under the Plans

It is no easy job to plan for the alpine tribal zones with prolonged winter and inhospitable climate. These isolated and inaccessible areas offer a challenge to developmental planning. Himachal tribal plans have been more or less a success story as the following parameters of economic growth would indicate

Planned progress in Tribal Areas vis-a-vis Himachal Pradesh

	Tribal areas	*Himachal Pradesh*
1 Total Population (persons)	1,33,847	42,80,818
2. Total area (sq. kms) The distinguishing feature is that 3 13% of the States population inhabit 42 49% of the States geographical area	23,655	55,673
3. % of S.T Population to total population of the State	4.61	
4 The proportion of workers	57 91%	42 37%
5. Literacy percentage (1961)	12 85	–
(1971)	21 89	31 96
(1981)	30 73	42.48
6. Irrigated Cropped area (1979-80)	39%	
(1985-86)	48%	17%
7. Veternary hospitals (per lakh of live stock population)	38	27
8 Medical (per lakh population) Institutions	104	50
9. Educational Institution per '000 of population (1984-85)	4	2
10 Technical Education Institutions (1984-85)	11	37
11. Technical Education Institution per lakh of population (1984-85)	8	1
12. Electrification of the villages (1987-88)	100%	100%
13 Percentage of villages provided piped water (1987-88)	91%	75%
14. Road density of motrable road (1983-84)		
(a) per '00 Km of area	7 12	25 19
(b) per '000 of population	12 58	3 28
15 Development/Non Development Expenditure (Plan) per capita (rural) outlay (SP& SCA)		
(i) Agriculture (1983-84)	38.92	12.19
(ii) Minor Irrigation -do-	76 3	12.90
(iii) Forest (1983-84)	73 50	28 38
(iv) Villages Small Industries. --do--	25.41	5 26
(v) Total Development and Non Developmental (Rural & Urban) (1983-84)	1262.64	400 79
16. Area under Horticulture increased from 1,787 hectares in 1973-74 to 7,217 hectares in 1987-88	(304% increase)	
17 Annual Fruit Production increased from 4,000 tonnes in 1973-74 to 13, 500 tonnes in 1987-88		

Source:

1 Annual Tribal Sub-Plan 1987-88, op. cited.
2 Seventh Five Year Tribal Sub-Plan (1985-90) and Annual Plan 1985-86 (Draft), Tribal Development Department, Govt. of. H.P Shimla.
3 Draft Annual Plan 1988-89 planning Department, op.cited
4. Annual Administrative Report of Scheduled Areas op.cited.
5 Development profile of Himachal Pradesh, Directorate of Economics and Statistics, Shimla
6 Statistical Outline of Himachal Pradesh, Directorate of Economic and Statistics, Shimla for the years 1981, 1985

The isolated tribals of the Pradesh are thus being brought into the mainstream of state and national life through planning. The findings of an Evaluation study of ITDP (Pangi & Spiti) undertaken by H.P. Krishi Vishva Vidyalaya reveals that governmental efforts and the development work undertaken have eductated and exposed the tribal population to the outside world and have made them aware of the social and economic rights.

However, tribal planning is not yet a cent percent success as is revealed by another Evaluative Study of ITDP Bharmaur undertaken by H P University to quote.

> "The administrative and financial innovations introduced in Bharmaur, although potentially beneficial, have not been fully utilized. In the development experience of the region, there are some gaps too obvious to be missed by an observer, especially in the provision of transportation facilities,. ..."

But keeping in view the fact that planning for tribal areas is a formidable task due to the peculiar and unique socio-economic, cultural and geo-physical factors, tribal planning has been successful to a large extent. The success can be attributed to the increased anxiety of the state government to bring these tribal areas at par to the level of development to other regions of the Pradesh and providing measures like single line administration, decentralization of financial powers, grass roots planning through ITDP, adequate infra-structure expert evaluation studies by the Programme Evaluation Organization of the Planning Commission and independent bodies like the Universities in the Pradesh, high powered Plan co-ordination and review body and a compact geographical area have all contributed to the success of tribal plans which is making steady headway. □ □ □

Dry lands development

Dr. Sayeed Ahmad Khan

In this article the author presents a plan for the development of hot Indian arid zones. Highlighting the environmental and ecological conditions of these dry lands, the author points out that soils and climate of the arid zones are well adapted to animal husbandry than crop culture. If animal husbandry is substantially developed in this region, it will give rise to many related inudstries which in turn will give further impetus to the development of the region, the author feels.

THE INDIAN HOT DRY LANDS cover an area of about 3,17,090 hectare land. More than three-fifths of the desert lies in the State of Rajasthan while a little over one-fifth of the area is located in the Gujarat State Besides, there are small pockets of dry land in Punjab, Haryana, Maharasthra, Andhra Pradesh and Karnataka. The dry lands face the problems of low and erratic precipitations frequent occurence of drought, high temperature with high wind velocity resulting in severe wind erosion hazards. Needless to mention that the desert vegetation, its survival, distribution and nutritious power are determined by the gamut of environmental complex comprising climate, topography, soil, irrigation and the socio-economic conditions as well. Grasses and grasslands sometimes referred to as 'scrubland' occupy a speical place in the flora of Indian dry lands. The grass cover designated as Dichanthium-Cenchrus-Lasiurs, is overgrazed, denuded and deteriorated. The vegetation cover has become inferior in quality. Moreover, pernious woody plants and herbaceous weeds predominate the flora. Thus, a comprehensively well coordinated programme is necessary to renovate the flora of the region Weed is also a serious problem. Therefore, weed control measures through the application of weedicides and judicious grazing management as well are of utmost importance All the same, one should take care of the correct time for the use of weedicides. To control the annual weeds more effectively, the appropriate time is before flowering. Again, it is suggested that the weed control process should be immediately followed by light dressings of fertilizers in order to enhance the productivity of grass. It is also advisable to introduce superior grasses and suitable legumes by reseeding in the areas of denuded grasses. Needless to explain that all these varieties and species should be well adapted to the particular environmental conditions.

Flora and fauna of dry lands

Since the earliest time of civilization vegetation cover of the drylands, has greatly suffered by natural factors and biotic interferences, resulting in the desication and desertification of the land. The animals and periodic locusts always disturb the vegetation cover of the drylands. Very often there is acry that goats are more destructive than others as they select and eat out only the best parts of the plants impairing the remaining portion of the plant.

Fauna is an another important resource of drylands. Needles to mention that like flora, the fauna is subjected to and has adjusted in various ways with environmental stress, such as the lack of water, the high temperatures and intensity of solar radiation, wind vellocities and dust storms as well. Apart from other animals like repitles, beetles, and rodents the desert livestock have solved the problems of water scarcity and high temperatures in a peculiar fashion. For instance, the camels and the sheep are able to solve their water budget problems. It is stated that the camel can drink incredible quantities of water at a

time, as much as 30 per cent of its own weight By necessity it is a very useful animal for drylands Further, cattle have adapted themselves to extreme variations of temperature. That is why more than 50 per cent of the total production of wool in the country comes from drylands. In this regard, "Nagori" breed of cattle has gained much popularity and is considered as one of the prize breeds of the country. Again 'Bikanari Sheep , a breed of Rajasthan dry lands is quite popular allover the country and they are considered to yield the highest quantity of wool say 9 lbs per sheep. The sheep have learnt to adjust and flourish in the unfavourable environment Thus the wool produced by them is of good quality Above all the tribal people like *Banjaras* continue to wander from one place to another buying and selling their animals and grazing their stock on the way.,

Animal husbandry, more ideal

Thus, in the economic development of drylands sheep, cow and camel can play a vital role and in turn sheep farming, camel development and dairy farming are most suited aspects and have bright prospects. Drylands are not suited for the rearing of buffaloes and that is why almost all the milk produced in the drylands come from the cow. In this regard, the application of modern genetics, advancement in veterinary and wool technology all are badly needed on scientific lines Further, cow keeping, milk poduction and milk processing plants can be established. Likewise, plants for the production and storage of wool are also essential. Apart from sheep and cow, camel breeding is also essential. The camel is a very important animal of desertlands. It substantially solves the problem of rural transport and greatly serves the defence purposes. By this discussion one can arrive at a conclusion that to get maximum from the country's drylands animal husbandry should be particularly developed than traditional agricultural cropping in spite of modern techniques developed in dryland agriculture. In turn, it will give rise to the development of many other related industries.

Soil of a region is a very important resource because it ensures the regular food supply for the sustenance of mankind by offering suitability for agricultural practices. The same is not true in case of drylands where the soils are sandy and water scarcity is a great problem. However, the drylands are endowed by nature with two important resources, i.e., flora and fauna.

The drylands of India which constitute about to per cent of the total area of the country contributes only 2.41 per cent of the total cereals produced in the country. However it is important to note that the percentage of workers engaged in the occupation of cultivation is higher (72.0) in arid zones as compared to that of the country as a whole (67.0). This is an obvious expression that the climatic conditions as well as the soils of the drylands are not well suited to cereal cultivation. It needs not be emphasized that water-stress is the most important factor limiting agricultural production in arid zones of the country. In the drylands a regular crop schedule is very difficult depending on precipitatin. But an animal husbandry programme would be more ideal.

The introduction of an extensive programme for the overall development of animal husbandry in the Indian drylands is imperative because of a number of factors. Firstly, the soils and climate of drylands which are sandy and hot respectively are well adapted to animal husbandry comprising particularly sheep, cattle and camel than tradition agricultural cropping system Secondly, in the environmental set of soils and rainfall conditions, forage and fodder crops can be grown more easily than cereal crops. Thirdly, the drylands for being suitable of certain animals enjoy a huge amount of animal population Forthly, the arid Zones where almost barren and unclutivable areas provide the animal feed and the labour is cheap offer better prospects for the development of animal husbandry in these regions. Finally, the huge size of population of the country is suffering from malnutration. There is a great scarcity of nutritious diet in our food system. All this needs large scale production of milk, butter, chese, meat etc This can be done by inducting well-coordinated programme for animal husbandry.

In our country there has never been a major programme which may channelize the food nutrition chain-from plants to animals and animals to men instead of emphasis on diet system of perennial intake of cereals while most of the advanced countries follow this system of diet India can achieve this through the overall development of animal husbandry throughout the country generally and in the drylands particularly. Although animal husbandry is the major occupation of drylands and plays an important role in the economy of these areas yet it is only next to the occupation of cultivation The detailed studies of the arid areas indicate that animal husbandry practices followed are traditional and the produce is meagre.

The Indian drylands cover an area of 31.7 million hectares, 2.9 per cent of this area is under perennial pasture, 12.1 per cent is fallow land and 20 per cent is culturable waste. Thus about 35 per cent of the gross area in the drylands is available for grazing of livestock. The number of livestock on per acre grazing lands is 6 while it is much higher being 63 on per acre of perennial pastures Thus the rangelands are under the severe stress of grazing. Consequently the production potentials of livestock have been reduced badly. Reports from Rajasthan indicate that during normal years of rainfal there is shortage of fodder by 36.0 per cent. It increases more in the times of drought and famine. Hence there is an emergent need to increase forage production from arid zones so that animal husbandry could have a strong base. If proper steps are taken into account not only the deficiency of fodder may be removed but the tremendous increase can also feed more animals.

Mismanagement of native rangelands

Pastures are the best and most economical source of fooder. The measures adopted for the improvement of animal husbandry largely depend on the improvement of native pastures which are badly exploited in the country. For centuries the Indian drylands have deteriorated because of the mismanagement. According to some experts uncontrolled grazing is the most dangerous practice to turn areas into desert. Protection of native pastures from heavy grazing by allowing the animals to graze at the proper time and interval is absolutely necessary. In some areas of dryland where pastures have been protected through fencing, the yield of fodder has increased by 4 to 6 times. But very little attempts have been made to apply it on a considerable scale. The result is that about 80 per cent of the grazing land is in poor rangeland conditions and is not maintained even to low level of productivity. Moreover, the animals graze on the fallow fields, uncultivated fallows and wastelands reducing their regenerating capacity and keeping them at low level of fodder production. The herdsmen are not interested in the conservation of pastures and tend to over exploit the natural vegetation. Hence it is very essential that these lands should be better managed to allow grasses to recoup their vitality. In this country no programme of animal husbandry can be successful without proper fencing due to very heavy livestock pressure. Among the various types of fencing the most suited and economical method is the use of angle iron post with barbed wire fencing the cost of which per running metre works out to Rs. 3.00. Attempts should be made to apply it one large scale.

Further, to increase the carrying capacity of pastures high yielding and drought resistant perennial grasses such as sewan (Lasiurus Sindigus), Kard (Dichan Thuim annulatum) and Dhaman (Cenchrus Ciliaris) are absolutely necessary. But most of the ground cover consists of low-yielding annual and perennial grass; like Bharut (Cenchrus biflorus), Lumpra (Aristida sp), and Kuri (Brachiaria ramosa). High yielding perennial grass are occasionally found. There is an emergent need to replace the low-yielding grassess by the above mentioned high yielding varieties. Besides, the methods which have proved effective in proper range management have to be utilized for increasing production of forage as reseeding, moisture conservation practices like bunding and contour furrowing.

Lack of cultivated fodder

The grazing lands are limited in the drylands but the scarcity of forage can easily be removed by cultivated fodder. In agricultural production, fodder is becoming extremely deficient. The supply of green fodder is less than one third of the requirements to feed 24.17 million livestock. The agricultural production in drylands is very low because low productivity crops are cultivated in irrigated areas. Less remunerative crops occupy overwhelming proportion of cultivated land and they give low yields because they are marginally suited for cereal cultivation. Still agriculture continues to be the main occupation of the bulk of population and the per capita income is low as compared to other parts of the country. Animal production can be a useful means for increasing the income and for providing more employment opportunities in arid areas. If land is used according to its capability then overwhelming proportion of cultivated land should not have been used for cereals crops but they are suited only to permanent grasses and legumes. Hence there is an emergent need to introduce a development programme of better land use according to its capabilities.

Cultivation of poor lands for raising food grain crops does not seem realistic not only because of the soil conditions but the adverse effects of natural calamities i e., draught etc are far less crippling in fodder crops, is no way less profitable than cash crops. According to the Director National Dairy Research Institute, Karnal, a hectare of good productive land under wheat gives a return of about Rs. 2000/- as against a return of Rs 3000/- to Rs. 4,000/- from milk farming. yet it is ironical that the land assigned to fodder crops is very limited because our farmers do not realize the importance of green fodder. They also consider the use of fertilizers on forage crops as luxury. Therefore, it is very essential to demonstrate to them the importance of animal husbandry. Efforts should be made to bring maximum area under forage cultivation. Mong (Phaseolus radiatus), Moth (P. aconitifolius) Guar (Cyamopsis tetra gonoloba) and Bajra (Cumbu Pennisetum Fyphoideum) are well adapted to the arid and semi-arid conditions to the desert. They should be extensively cultivated as fodder crops. Moreover, plantations of spineless cactus in drylands can serve as reserve feed because it is successful in the years when even the minimum rainfall fails. The plant is highly drought-resistant. Attempts can be made to grow it on a large scale.

Further, researches conducted at the Arid Zone Research Institute, Jodhpur have shown that putting the grasses in strips in between crops in cultivated land increases forage production by 20 to 30 per cent and it would provide to the grasses much better conditions of growth from cultivated acreage than what it is possible when all the area is risked under crops and the crop is damaged on account of the shortage of adequate rainfall. Accordingly, attempts can be made to maximize the practice of inter-cropping.

Inadequate provision of improved breeds

The efforts and cost required for proper development of animal husbandry are perhaps not considered worthwhile by livestock owners because the animals are not productive enough to give handsome profit on the investment involved.

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Making handicapped self-dependent

Mrs. M.K. Widge

The author here throws light on the plight of handicapped persons and Governmental efforts being made in this direction with special reference to provisions in Five Year Plans. In the Plans, according to her, the objective has been to design programmes 'to convert as many handicapped ... as possible into relatively active, self-dependent and productive members of the nation'. In this regard the author suggests measures like genetic counselling, provision of basic health services, prevention of accidents and dissemination of correct information.

HANDICAPPED PERSONS CONSTITUTE ONE OF the weakest segments of our population. Article 41 of the Constitution of India lays down that "The State shall, within the limits of its economic capacity and development, make effective provision for securing the right to work, to education and to public asistance in cases of unemployment, old age, sickness and disablement and in other cases of undeserved want". As per 1981 census, there were 119 57 lakh persons in the country who were having visual, hearing and/or speech and locomotor disability Out of these 96.89 lakhs were reported to be in the rural areas and 22 68 lakhs in the urban areas The census did not cover any other disability The National Sample Survey Organisation also conducted a countrywide survey in 1981 covering 3 types of disabilities viz., visual disabilities, communication disabilities and locomotor disabilities. Mental disability was excluded from its purview The survey arrived at an estimate of 12 million persons having at least one or the other disability which constituted about 1 8 per cent of the country's total population.

Distressing aspect

The most distressing aspect is not the large number of the physically handicapped persons of different categories but the fact that much of it is preventable, specially among the younger age group, if attended to well in time. Its incidence is mostly found to be due to inadequate pre-natal, natal and post-natal care, malnutrition, vitamin 'A' deficiency, cataract, various infectious and crippling diseases, occupational/road/kitchen accidents etc

In the long history of social welfare in India, voluntary organisations have been playing a pioneering role in providing welfare services to the physically handicapped, largely in the shape of institutional care In fact it may not be wrong to say that voluntary effort preceded and in a sense prepared the ground for the planned approach in this field

Governmental effort

Governmental effort in this direction started with the launching of the First Five Year Plan in 1951 when it recognised the voluntary effort and extended financial assistance to the organisations working in the field besides providing scholarships to the handicapped to help them to get education and training as a step towards their rehabilitation. The programmes continued to expand from Plan to Plan with stress on their education, training and rehabilitation The approach, however, has shifted from Fifth Plan

onwards from the curative and rehabilitative services to the preventive and developmental services. Prevention of disabilities through early detection and treatment has been given relatively high priority compared to the purely curative services Special attention is being given to the development of multi-disciplinary services, both in identification and treatment of the handicapped. Education, training and employment of the handicapped persons is being promoted for integrating them in the normal stream of life The Central Government, by and large, concentartes on the development of demonstrative services which have multiplier effect. Some of the major schemes under implementation are as follows:–

National Institutes

National institutes, one each for the blind, the deaf, the orthopaedically handicapped and the mentally handicapped, are functioning in the country as apex bodies at the national level in the field of education, training, vocational guidance, counselling, research, rehabilitation and development of suitable service modules They also serve as premier documentation and information centres in their respective areas of disability.

Scholarships

Education and training play a vital role in the socio-economic rehabilitation of the handicapped Scholarships are being awarded to them for pursuing education and professional/technical/vocational training

Assistance to disabled

A number of special aids and appliances have been developed in the country with the help of modern technology The use of these aids/appliances has made it possible to reduce the disability of the handicapped In view of this, assistance is being made available for the purchase/fitting of aids/appliances either free or on subsidised rates to the economically weak disabled person depending on his/his parents/guardian's (in-case he is dependent) income.

Integated education

Under the scheme, handicapped children are placed in ordinary schools with the help of special teachers, aids and other resources This promotes close inter-action, understanding and appreciation of the assets and limitations, both of handicapped and non-handicapped children Another advantage is that the child remains with his family in the early years of his childhood, a period which is crucial for healthy growth and development.

Vocational rehabilitation centres

The VRCs evaluate the handicapped and provide adjustment training facilitating their early rehabilitation. Skill Training Workshops have also been set up in some of the VRCs to facilitate their speedy rehabilitation.

Employment exchanges

A great deal of effort is being made to provide education and training facilities for the handicapped but the task of rehabilitation remains incomplete unless the services are developed for the placement of physically handicapped in the open market. There is a long prevailing prejudice and apprehension that the productivity of the handicapped is lower than that of the normal persons Hence special employment exchange and special cells in the normal employment exchanges across the country. Besides, the normal employment exchanges also register handicapped persons for suitable jobs

Reservation of vacancies

Three percent vacancies, one per cent each for the blind, the deaf and orthopaedically handicapped, have been reserved in Group C and D posts in Central Services and in comparable posts in Government of India public sector undertakings

District rehabilitation centres

These provide comprehensive and coordinated services for prevention and early detection of disability and assist in securing employment and self-employment to the handicapped persons in rural areas

Petrol subsidy

Fifty per cent of the cost of petrol/diesel purchased by handicapped owners of the motorised vehicle, subject to a certain celing, is reimbursed to them.

National awards:

Every year National awards are being given to the outstanding employers of the handicapped and to the most efficient handicapped employees/self-employed handicapped persons from Government, public undertakings, local bodies, corporations and the private sector

Technology development

Recognising the potential of technology for improving the quality of life of the handicapped persons, a Technology Development Project in Mission Mode has been set up to develop/modify the aids/ appliances which are cost effective and suitable to Indian conditions

In addition to the above, the voluntary organisations for the disabled persons are being financially assisted to provide both institutional and non-institutional services such as homes, residential/non-residential schools, sheltered workshops, aid-fitting centres etc.

Our country is committed to attain the goal of "Health For All" by the year 2000 A.D Primary health care has been accepted as one of the main instruments of action. A 'National Programme for Control of

Blindness' is in operation under which prevention of visual impairments and opthalmic care facilities are being augmented Preventive and prophylactic programmes, like immunisation against polio, vitamin 'A' prophylaxis, are being pursued vigourously. The health care programmes for school age children lay stress on detection of correctable disabilities which may prevent major handicaps later.

The National Policy On Education-1986 holds that "the objective should be to integrate the physically and mentally handicapped with the general community as equal partners, to prepare them for normal growth and to enable them to face life with courage and confidence" It envisages common education of children with motor and other mild handicaps with that of other. Special schools are suggested only for the severely handicapped.

Plan objective

The handicapped persons, irrespective of the disabilities they suffer with, have as much a right for healthy, normal and happy life as the other individuals. In the Five Year Plans, the objective has been to develop an all-round programme to convert as many handicapped persons as possible into relatively active, self-dependent and productive members of the nation However, the programmes, by and large, aim at their rehabilitation through ameliorative and curative services. These involve huge investments on treatment, training, economic and social rehabilitation

Much remains to be done in the area of prevention, early detection and consequent appropriate intervention with the help of the available medical, psychological and technical knowledge. Some of the important measures which need to be stressed are: (i) *identification and surveillance of "at risk"* populations, (ii) genetic counselling, (iii) provision and accessibility of basic health services, (iv) prevention of various types of accidents and (v) dissemination of correct information-specially to the parents, about the causes of impairments and the potential for their prevention.

At present most of the services are institution-based and are largely located in the urban or semi-urban areas. These prove very expensive and often the institutional environment is not stimulating enough to cater to the needs of the handicapped. As a consequence, the handicapped persons are not able to realise their potential fully and fail to participate in or contribute towards the society they live in, resulting in a massive waste of human resources. In view of this, segregation of handicapped needs to be avoided as it would prevent them from acquisition of social skills required for inter-personal relations and adjustment. Moreover, it would be more economical and appropriate to develop services and programmes in the community and family than building up of isolated services. Fortunately, the technological know-how for providing various kinds of aids and appliances is to the extent possible. Given proper care, education and training, a majority of them can become self-supporting and useful members of society. Simple, durable and inexpensive aids and equipments may have to be made available to them on a larger scale.

While providing the preventive and curative services, one cannot ignore the psychological and the social problems faced by the handicapped persons. Very intense emotional reactions like depression, withdrawal, frustration, aggressiveness etc usually follow when one experiences the sudden loss of sight, limb etc. Such persons have to be prepared through proper counselling to accept the situation and make use of their remaining capacities for education, training and suitable employment At the same time, the society has to be prepared to accept these persons with their limitations. It should no more treat them from the angle of charity but from the point of view of providing opportunities to utilise their talents fruitfully. This would give them a feeling of confidence and sense of achievement in being useful members of society which is the ultimate aim of all welfare work for the handicapped group Greater attention will have to be given to the training of personnel engaged in their welfare work. The motivational aspects of the persons engaged in this field are likely to contribute a great deal to the success of the programmes □□□

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The improved high yielding breeds of livestock have been supplied on a limited scale. It is the basic condition that livestock breeds should be sufficiently productive and high in their genetic potential to attract investment in fodder production In this age of technological innovations large varieties of improved animals have been developed. For instance, cross-breeds between Indian and exotic cattle have proved very effective. They not ony increase much larger production of milk but also get maturity in less than half the time required by the famous local breeds and thus are able to give return more quickly. Accordingly, it is not difficult to make adequate provision of improved varieties of animal to the livestock owners.

Whether conditions are arid or semi-arid considerable increase in forage crops can be ensured if extensive measures are taken into account. In conclusion, it must be said that potentialities are tremendous and the need for increasing fodder production in the arid lands is very urgent not only for improving economic conditions of these areas but also to develop a nutritious food system for a vast majority. □□□

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Water resource management: A case study

R. Balasubramanian

In this article the author deals with water problems and the economics of water resource management in irrigation efficiency through a case study of Tamil Nadu. Since the distribution of water is very uneven, the economics of water resource management gains importance. How has this been made a success in Tamil Nadu. The article provides the answer.

WATER IS A UNIQUE SUBSTANCE AND it is essential for human, animal as well as plant survival. Agriculture requires vast quantities of water. In fact Water is a vital source of energy and provides an important means of Irrigation efficiency in food production Neither the supply of water nor its distribution is uniform throughout the surface of the earth This has resulted in an apparant imbalance between demand and supply of this vital natural resource Some areas are blessed with a fairly uniform and more than adequate supply for human and Agricultural needs, but many other regions have a greater need for water than supply. Generally Water is in great demand in dry areas, considerable time and effort are expended by the inhabitants of such regions in searching for it, in transporting it and particularly in storing it for irrigational use. In those areas, water is quite costly and ownership of supply is something to be prized, Money and labour are required to develop various sources which would supply water to meet the ever growing requirements. Further to purify existing water sources for human or Industrial purposes, to keep polluted waste out of the ground water and to have adequate Water energy for crop cultivation huge sum of money is required Since Water is vital for most domestic, Agricultural, Industrial purposes, the economics of water is an important issue in Water resource Management.

The concept "Water Resource Management" refers to an important Involvement of integrated process of diversion, conveyance, regulation, measurement, distribution and application of a rational amount of water at the appropriate time and the removal of excess water from farms". – (National Irrigation Administration, ADB)

Factors affecting water resource

There are two major factors affecting Water resource in irrigation system They are;

(a) Factors affecting demand for water

(b) Factors affecting supply of water.

The main factors which affect the demand for water may be listed as the price of water, population, the stage of economic growth and technology. Though pricing of water atleast for domestic uses is to be discouraged, charging a high price in general would result in rational use of water and minimising its wastage. In this case the demand for water is regulated and rationalised In the case of Agricultural uses, charging a high price may force the farmer to reduce the demand for water used for irrigation and thus badly affect the Agricultural production

An increase in population would result in a greater demand of water for various purposes. The stage of economic growth reflects the state of Industrialisation and other economic activities which in turn demand larger quantity of Water. Large-scale farming also requires huge quantity of water

The supply of water is mainly affected by the availability of potential sites for developing irrigation works and the flow of water available there.

Technology is another important factor affecting the supply of water, for it influences the cost of making it available by the construction of dams and reserviors and the drilling and lifting of water from underground sources.

Besides these, the increasing cost of construction materials, equipment and services also come in the way of stepping up the water supply:

Water resource economics

Water resource economics, like the economics of any other natural resource, is concerned with three aspects of water resource, i.e 1. Management, 2 Conservation and administration, 3 Policy formulation. The irrigation efficiency may be obtained by maximising the output per unit of water and by minimising the wastage of water while using it. The maximisation of output per unit of water depends upon many factors like, the source of water, the area irrigated per unit of water, the cropping pattern, the use of such other inputs as fertilizers, plant protection materials, the ownership of water, application, land levelling, mode of conveyance of water, etc ,

The cropping pattern is a very important determinant of water-use efficiency. The farmers are therefore; to adopt a cropping pattern which is most suitable in terms of the availability of water. i.e, farmers have to select crops, varieties and crop rotation in such a way that the available water is optimally used. But lack of appropriate and well defined water rights may create great many problems in water distribution among irrigation. The degree of efficiency of water use differs under state and private ownership of Water-source

A Case study of Tamil Nadu

Tamil Nadu receives rain, four times in a year during (a) South-West monsoon period (June-September) (b) North-East monsoon period (October-December) (c) Winter period (January February) hot-weather period (March-May). The state gets 80% of the total rainfall during the year, only from the monsoons, Some important features of these monsoons are worth mentioning:—

1. The distribution of rain-fall affects the cropping pattern. The maximum rain-fall is obtained during the north-east monsoon period which benefits the rice crop.

2 Different areas benefit differently from different monsoons. The Nilgiris receives the heaviest rainfall during the south-West monsoon. Kanyakumari district and parts of Coimbatore, Salem and Tiruchirappalli district also get more rainfall during this season. The North east monsoon brings more rains to the coastal plains,to Cholamandalam and Cauvery delta.

Present Distribution of average Rainfall in Tamil Nadu

Range of rainfall (M.M)	*Districts*
Below 800	Dharmapuri, Ramanathapuram and Coimbatore
800-1000	Tirunelveli, Madurai, Salem North Arcot and Tiruchirappalli
1000-12000	Thanjavur and South Arcot
1200-1400	Madras and Chengalpattu
1400-1800	Kanyakumari
1800 & above	The Nilgiris

Source: The perspective plan of Tamil Nadu, 1974-87.

The total benefits from the monsoons also differ from district to district as Indicated in the following table

Areas which have a rainfall of 400-1000 mm are usually classified as "dry areas" and, on this basis, in Tamil Nadu, 60 per cent of the states total agricultural production comes from such farming.

Rivers and water supply

The rivers of the State flow eastward from the Western Ghat and are entirely rain-fed. The perennial rivers are, the polar, Cheyyar, ponnaiyar, Kaveri, Meyar, Bhavani, Amaravati, Vaigai Chittar and Tambraparani The non-perennial rivers are the Vellar, Noyil, Siruliar, Gundar, Vaipar and Varshali. The 760-km long Kaveri is the largest river of the state and it is known as "the Ganga of the south". It rises in the western ghats in the coorg district of Karnataka, moves along the entire breadth of the peninsula and forms a large delta at its mouth in the Tanjore district before flowing into the Bay of Bengal.

It has been estimated that the state has surface water flows of about 1,200 T M C (thousand million cubic feet). The ground water potential of Tamil Nadu has also been estimated at 20.85 million acre feet which includes ground water storage

It is possible to understand from the following table that the wells emerge as the largest source of irrigation.

Water Resources in Tamil Nadu (Area Irrigated-Source wise)

Source	*Years*				*IN' 000' Hects.*
	1960-61	*1970-71*	*1975-76*	*1980-81*	*1985-86*
1 Govt Canals	750	930	910	9.31	940
2. Private Canals	1	1	1	1	1
3 Tanks	900	920	750	896	910
4 Wells					
a Tube Wells	17	20	62	105	118
b Sole Irrigation	600	800	807	1013	1150
c Supplementing other sources	78	120	136	130	132
5 Total area irrigated excluding 4 C	2268	2671	2530	2946	3119
6 Area irrigated more than once in the same year	650	820	811	999	900
7 Percentage of area under crops irrigated to total cropped area	36 2	46 0	46 7	51 0	50 9

Source Tamil Nadu-An economic appraisal, various years

The central irrigation commission remarked that Tamil Nadu is the only state which has utilised nearly 96% of the potential created for irrigation through major and minor sources.

Water Resource management in Tamil Nadu

Tamil Nadu has been making "Herculean efforts" in augmenting all the available internal sources of

water for irrigation purposes. This evidently involves people's participation and involvement at the lowest level. The state planning commission recommends that "a thorough and drastic change in our style of planning and execution of water management in irrigation efficiency of cultivation process".

The management of water in agriculture may be done at two levels. i.e., on the farm and off the farm. The efficiency of irrigational water management on the farm depends upon the type of distribution network, that is available, the location of holdings, the levelling and shaping of land etc, Besides, the quantity of water to be applied to different crops, and any cropping pattern adopted will have a bearing on the farm efficiency of water management.

The efficiency of water management under off the farm, depends upon factors like operating rules of the irrigation system, the institutional and social framework in which the farmers and administrative officials operate, and the infrastructural facilities available.

Tamil Nadu is a pioneer in implementing water management and it has been doing it effectively at on-farm as well as off-farm levels from 1967 onwards and particularly in cauvery command area, Sathanur Command area, Periyar, Vaigai and Bhavani Command areas. Tamil Nadu, closely followed by Andhra Pradesh and Karnataka were top-ranking states in water management. Under utilisation of water potential in these states is found to be the lowest varying between 1.5% to 3%, while the national average of lag in utilisation is around 10.0%.

Conclusions

From the foregoing, it is obvious that a policy for irrigation efficiency in water resource management, giving great emphasis to optimum production per unit volume of water through an adequate and timely application of irrigation water with optimum use of inputs, has been accepted to replace the traditional practice of spreading available water to as many hectares as possible as has frequently been done, in the hope of achieving far more extensive benefits.

It has also been realised by the government that full agricultural benefit from the irrigation resources created can be derived only when integrated operation progrmmes, envisaging simultaneous activities in agriculture and allied fields, are planned and undertaken on an area basis in the command areas of the projects.

From the long term point of view, the Ganga-Cauvery link, connecting the Ganga in the north with Cauvery in the south and passing en route through the basins of sone, Narmada, Tapi, Godavari, Krishna and Pennar would make the Southern States particularly Tamilnadu, improve irrigation efficiency and water availabilities for other purposes. □□□

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employment given by the traditional crafts. It has considerably eroded the income of the remaining craftsmen. While the IRDP has indentified these groups they are yet to receive any assistance. In fact, no programme benefitting these groups has taken a shape. The proportion of area under forests to total area is comparatively higher in tribal areas and it is in the fitness of things that forest based activities are properly planned. Because of the proliferation of modernised industrial and mining complexes in the tribal belts, the natives have been further pushed down in the ladder of development and they now form the lowest strata in the new industrial society. Not much attention has been paid to this apect of heterogenous development of the society. Such a situation is, however, to be averted while planning for balanced regional development of the tribal belts. It is to be seen that the fruits of development and planning are shared by every member of the society.

Systematic planning

A comprehensive and systematic planning of activities in the tribal areas is the need of the hour. The social overhead capital in these areas is at its lowest ebb. It is essential to re-examine various issues like the location of the schools in relation to settlement patterns, devising new institutional structure appropriate for the area, the school timings, phasing of the present vacation period and the need for lowering educational qualifications for teachers to attract local people. The examination and modification of these institutional factors is essential for effective participation of the tribal people in the development process. The curricula and reading materials are to be so prepared as to have direct relevance to local community requirements. The pockets having very low literacy rates require highest priority and it is essential to provide them with a package of services. The pockets which have witnessed intensive economic activities like the hinterland of industrial and mining complexes require heavy investment in education to improve employability of tribals. Educationally backward regions need tremendous efforts to equip the matriculates with professional qualifications, provide technical contents and to bring down the number of drop outs. In the field of health and family welfare, it is essential to formulate a special plan for geographical distribution of health services and for eradication of problem diseases like leprosy, etc. Preventive aspect requires even greater attention. Central Government would play an important role in the development of tribal areas. Besides supplementing the efforts of State Governments, in their respective sectors, each ministry will be required to give priority to and earmark outlays for the tribal areas from within its plans. □□□

Role of voluntary and other organisations in development

Lawrence Gomes

In this article, the author presents a detailed study of the functional aspects of voluntary organisations engaged in development work. Analysing their problems and future plans, the author feels that the plans of these organisations are in line with the development plans of the Government and thus call for encouragement and support in terms of finance, land and man power both from the Government and the public.

VOLUNTARY EFFORTS FOR RURAL AND urban development were first initiated by great individuals and organisations including Christian missionaries and other religious bodies during the middle of 19th Century Earlier the role of voluntary organisation was largely confined to relief measures for the victims of war and natural calamities , rehabilitation work among lepers, orphans, widows and untouchable in India. However, over the years there was shift in *approach from relief to multi-sectoral approach for* the area development by the voluntary organisations It 'has been noted that after 1951 the number of voluntary organisations have increased to a great extent. At present it has been recognised that despite limited resources, these organisations have contributed much in development work. Morever, this has become possible largely because of their understanding of local needs, their capacity to involve local people, their desire to experiment with new programmes, strategies and approaches for development without incurring large expenditures. They have also developed expertise and competence in many non-traditional areas to plan their own schemes instead of expecting government to do so Therefore, the Planning Commission, in our country has involved the voluntary organisations in the seventh five year plan for planning and implementation of various development programmes The present paper is a part of an evaluative study undertaken by Indian Institute of Management Calcutta (IIMC) on voluntary and other organisations involved in development work.

Objectives of the study

The three major objectives of the present paper are·

1 To identify different types of voluntary and other organisations in relation to the nature of work they emphasize in the area of both rural and urban development
2 To find out the type of resources a voluntary organisation can share with other social welfare organisation in development work
3 To study the various problems faced by the voluntary and other organisations in course of implementing different developmental programmes

Methodology

The methodology followed was collection of primary data and information through a structured questionnaire. The mailing system was used to collect information from different voluntary and other organisations during the last 7 years (1981-1988), using the list available in the Directory of Social Welfare Agencies in India, Directory of on-going Rural Development Programmes in India, Directory of Resources engaged in Rural Development, Environmental Non- Governmental Organisations (NGO's) in India etc. Which were published by various departments, Govt. of India, New Delhi. In addition, the list of other voluntary organisations was collected

from the responding organisations. In some specific cases, direct interviews were also conducted. In this way information were collected from 809 organisations in India.

Profile of the organisations

The organisations are broadly divided into four categories.

(i)	Voluntary	These are registered societies according to Societies Registration Act of 1860 and also of 1961.
(ii)	Government	These are government sponsored organisations directly managed and financed by government.
(iii)	Semi-Government	These are autonomous bodies functioning under rules and regulations framed up by government.
(iv)	Others	It includes industries, financial institutions, educational trust and public charitable trust.

Growth

It would be evident from table 1, that 10.8% of the organisations were set up before 1951 while 89.2% organisations were established after 1951. This clearly shows that the starting of planning process for development of our national economy worked as a fillip to the growth of voluntary organisations.

The faster growth rate in the period between 1951 and 1981 has been the result of:—

(i) easy availability of funds from the foreign donor agencies,

(ii) involvement of voluntary organisations in various plans and programmes of government

Table 1

Year of establishment of the organisations

Year	*No. of Organisations*
Before 1951	88 (10.8)
1951-60	145 (17.9)
1961-70	184 (22.7)
1971-80	315 (38.9)
After 1980	77 (9.7)
Total	809 (100)

Note: Figures in the bracket indicate percentages

(iii) increase of motivation in development work among certain classes of our society specifically women, youth and teachers.

(iv) J.P. movement during 1976

Area of Concentration

An overwhelming majority (63.1%) of the organisations concentrate development work in rural areas exclusively while 30.5% operate both in rural and urban areas. However, a few oganisations work in urban areas which are engaged mainly for slum improvement.

Collaborating agencies

A significant number (71.5%) of the organisations have collaborating agencies whereas the ramaining organisations work individually without any collaboration.

It has been observed that the collaborating agencies guide these organisations in project planning, providing technical expertise, project funding and supports other resources for development work. A large section of organisations (55.3%) have 1 or 2 collaborating agencies while some organisations are assisted by 3 to 5 agencies and a few organisations work in collaboration with as much as 6 agencies. Incidentally, the organisation which work independently undertake very limited number of projects which are funded by local donations.

Different types of collaborating agencies which work in liasion with voluntary and other organisations may be local, regional, national and international. It has been noted that most of the voluntary and other organisations work in collaboration with more than at least one agency belonging to the above categories. While studying the status of collaborating agencies, it has been found that as many as 43.7% of the organisations are collaborated with regional agencies, 24.0% organisations are linked with national level agencies, but the remaining section are connected with local and international agencies. However, the share of international agencies is found to be negligible

Number of projects

The number of various developmental projects undertaken by each organisation ranges from 1 to 9 or more. It has already been stated that 28.5% or 229 organisations execute 1-2 projects each which are very limited. However, 3-4 projects are implemented by most of the organisations (28.5%) but rest of the organisations evenly initiate 5-6, 7-8,9 or more projects in order to perform multi-sectoral approach for the area development.

Geographical area of operation

So far geographical area of operation is concerned a sizeable section (40%) concentrate their development work within 10 villages whereas 16% implement

their activities between a cluster of villages varying 10-50. *These are normally local and grass root level* organisations. There are also organisations which cover as many as 51 villages and more than 200 villages but their proportion is seventeen percent of the total. While the village coverage of remaining organisations are not available. Morever, it has been estimated that on an average each organisation concentrate its development work in 88 villages. The major criteria of adopting a village by the organisations is the accessibility to it, the degree of resources in their hand, peoples participation and the availability of local resources to inculcate development of the people and the area

Workers

In voluntary organisations there are both paid and unpaid workers but the number of paid workers are found to be pre-dominantly high. Including both the categories, most of the organisations (66%) have upto 50 wokers, 15% of the organisation have 51-200 workers while the rest of the organisations have 201-600 or more workers. An estimation shows on the average that each organisation engages 99 workers to look after different projects within its jurisdiction However, the ratio between adopted villages and number of workers appear to be 1:1. Therefore, from this it may be concluded that a voluntary organisation tactfully manages its work with less number of workers by assigning them more than one work in order to minimise their expenditures

Beneficiaries

The number of beneficiaries covered in various projects undertaken by as many as 38% of the organisations could not be assessed for want of proper records. In case of remaining organisations the beneficiaries covered in different projects has been estimated to vary from 50 to 1001 or more. It is noted that maximum of these organisations aim to cover landless agricultural labourers, marginal farmers, small farmers, artisans and weaker sections of the society.

Major activities

It appears from Table 2, that the organisations give first priority to social development programmes, then economic development programmes. The logic behind it is that by adopting social development programmes peoples' attitude can be changed and motivational spirit can be developed. This in turn helps the organisations to execute economic development activities in a better way. It has been also noticed that in order to undertake different activities the organisations keep in view the needs of the people, the resources available in the area, accessibility of the area concerned and their objectives. The social development activities include education, health & sanitation, relief, slum improvement, housing and conference/seminar. While economic development activities involve skill formation/entrepreneurship development, agriculture & allied, animal husbandry, extension services and appropriate technology.

Table 2

Major activities of the organisations (Multiple responses)

Major Activities	*No. of Organisations*
Skill formation/entrepreneurship development	618 (18 8)
Education Development	581 (17 7)
Health and Sanitation	510 (15 5)
Agriculture & Allied/Animal Husbandry	420 (12 8)
Relief	352 (10 7)
Slum Improvement	279 (8 5)
Extension Service	190 (5 8)
Developing Appropriate Technology	187 (5 7)
Housing	61 (1 7)
Conference/Seminar	46 (1 4)
Others	46 (1 4)
Total	3290 (100)

Other-Printing, publication sales & marketing

Sources of fund

The organisations are generally financed by different sources which may be classified into five categories such as government, non-government, foreign non-government, foreign government and own resources/donation It was observed that most of the organisations receive fund at least from two sources Thus out of 1273 responses a sizeable section (46.6%) indicated government, 25 9% mentioned non-government but the remaining portion highlighted foreign non-government own resources/donation and foreign government of which the later is very negligible In past the voluntary organisations were mainly supported by foreign donor agencies to execute their developmental projects but after the formation of National Level Peoples Action for Development now renamed as Council for Advancement of Peoples Action and Rural Technology (CAPART) and the stress of government policy during seventh five year plan have helped these organisations to initiate developmental projects by government funds without depending too much on foreign donor agencies

Sharing of resources

Sharing of resources as well as coordination in development work among the voluntary and other organisations is very much essential to strengthen their development work

It is evidént from Table 3, that 50% of the organisations resources are very scarce, therefore, they are unable to coordinate and seek help from other organisations. The remaining counterpart each intend to share at least their two resources with other organisations in terms of technical expertise & guidance, material support, financial assitance and human resource. Of them, maximum can provide technical expertise related to the project experienced by the organisations, then materials support which includes medicine, equipments, food and library assistance. However, this is followed by project funding, local help of sending volunteers for project implementation and project planning.

Table 3

Voluntary agencies can share resources with other organisations. (Multiple responses).

Resources	*No. of Organisations*
Technical Expertise	334 (36.7)
Project Funding	166 (18.2)
Medicines	116 (12.7)
Equipments	114 (12.5)
Food	80 (8.8)
Local help for projects implementation	59 (6.6)
Project Planning	23 (2.7)
Library assistance	17 (1.8)
Total	909 (100)

Major problems

It emerges from Table 4, that both internal as well as external problems are experienced by the organisations in doing various development works. Most of the organisations have mentioned at least two major problems with varying weight, Out of the total responses (1307), 36.6% identified lack of adequate fund as the major problem hindering development work whereas 13.6% indicated lack of sufficient space/accommodation as an important constraint to execute various development programmes. Some organisations also highlighted non-availability of technical personnel as their problem while some others pointed out lack of proper coordination from government agencies as a stumbling block to development activity of voluntary organisations. The share of exponents of former view is 10.3% and that of latter is 7.6% respectively. It was also found jointly 8.0% manages with shortage of manpower as well as inadequate resources like medicines, equipments and books Apart from this there are also several other problems which the organisations have to face to fulfil their avowed objectives.

Table 4

Major problems of the organisations (Multiple responses).

Major Problems	*No. of Organisations*
Lack of adequate fund	478 (36.6)
Lack of sufficient space/accommodation	178 (13.6)
Non-availability of technical personnel	139 (10.6)
Lack of proper coordination from govt. agencies	99 (7.6)
Shortage of manpower	55 (4.2)
Inadequate resources like books, equipment and medicines.	50 (3.9)
Non-availability of dedicated/devoted personnel	49 (3.7)
Lack of communication facilities	43 (3.3)
Non-availability of vehicles/transport	41 (3.1)
Problem of marketing of finished products	30 (2.3)
Lack of technical guidance and knowledge related to development work.	29 (2.2)
Problem of recovery of loan	27 (2.1)
Lack of peoples participation	27 (2.1)
Political pressure and groupism in development work	25 (2.0)
Lack of proper management	12 (.9)
Lack of coordination from voluntary agencies	10 (.8)
Others	15 (1.0)
Total	1307 (100)

Others- Low salary, irregularities of fund, non-availability of agri, inputs, project funding according to the principle of donor agencies.

Furture Plans

While analysing the future plans/programmes of the organisations engaged in rural and urban development it has been found that priority has been set up by most of the organisations in the following order:—

(i) Health and medical care
(ii) Adult education
(iii) Agricultural development projects
(iv) Mother and child care
(v) Self employment programme
(vi) Entrepreneurship development

Barring a few which are unable to prioritise the development schemes because of uncertainty about the availability of fund. From the above it clearly emerges that the plans of voluntary organisations are in line with the policies of the government such as Health for all in 2000 A.D, National Adult Education Programme to remove illiteracy, Intensive Agricultural Development Programme, Family Welfare Programme and Self Employment Programme and thus need to be encouraged and supported ☐☐☐

BOOK REVIEW

Housing in India by Francis Cherunilam and Odeyar D. Heggade, Himalaya Publishing House, 1987, pages 168 price Rs. 90/-.

Housing, received as a set of services, is an important environment that has profound impact on the socio-economic and physio-psychological development of human beings. Yet, according to some estimates, about one-fourth of the world's population does not have adequate shelter and lives in extremely insanitary and unhygienic conditions. The housing problem, naturally, is more chronic in the developing countries where an estimated two-thirds of the population amounting to 1.2 billion people, live below the poverty line. Housing shortage, perhaps, is largest in India.

The U.N. O. declared 1987 as the International Year of Shelter for Homeless to focus attention on the chronic inadequacy of this basic necessity and to help evolve effective solution to the problem. In the light of this, the book helps draw our attention to the housing situation in India, reviews organised efforts to solve the problem and high-lights other related important problems in the housing sector. It is based mainly in secondary data drawn from various government publications. Much of the data has become old, though it serves as a trend setter

The authors have gone into various aspects of housing problems-both rural and urban, particularly urban slums, housing cooperatives, finance institutions and individual institutions It also covers though sketchely the government participation in social housing schemes Observations made at the end of the book, really compells a person to ponder over the problem with greater depth and one is prone to agree wtih the observations.

Although the main focus of this book is housing in India, it also contains some general broad observations about the global housing problems with particular reference to developing countries. Select bibliography of books and articles is really helpful for indepth study

(S.K. Nayyar

PUBLIC POLICY AND POLICY ANALYSIS IN INDIA: Edited by R.S. Ganapathy, S.R. Ganesh, Rushikesh M Maru, Samuel Paul and Ram Mohan Rao. Published by Sage Publications India Pvt. Ltd., C-236, Defence Colony, New Delhi 110 024. First published: 1985. Pages 328. Price not mentioned.

The book has 14 papers contributed by knowledgeable persons in the field of public policy-making. The major focus is on the need to develop an interdisciplinary approach to policy analysis for solving the problems of poverty and under-development.

M L Dantwala and J.N. Barmeda, in their paper on rural development, provide a historical view of the evaluation of rural development policies since independence of the country. According to them, two major weaknesses that persisted related to lack of coordination between various government departments and neglect of the poorest strata of the rural population "Both these continuing weaknesses in policy implementation also reflect an inadequacy of policy analysis to take into account the major structural causes of underdevelopment "

It is true that the main task facing the policy analyst is of developing an indigenous craft of public policy analysis which is at once useful in solving practical problems and sensitive to socio-structural issues As such, policy-makers need to recognise analysis as an important aid to decision-making For this purpose, a climate of mutual trust and understanding between the two should be forged through integrated programmes involving research, training and consultation

In a fairly exhaustive paper, Vina Mazumdar delineates on the role of research in women's development. According to her, women's general situation continues to be viewed overwhelmingly as only culture-specific, without relating it to economic and political trends and institutions. "The neglect of the household and the unorganised sector in social analysis has been responsible both for the absence of information and misinformation about women's econmic position" Mazumder has analysed the whole theme in a historical perspective and laid bare the negelct of women's development in our socio-economic policies

In fine, the overall impact of policy analysis in India is largely marginal. Policy analysis through replication of experiments and pilot projects has not worked very well. The systemic nature of our problems defies conventional policy analysis. For example, public works programmes can no longer alleviate unemployment, or incomes and prices policy is no more effective for combating inflation.

Navin Chandra Joshi

New International Economic Order and Systemic Reforms by R.M. Honavar and S.V. Bokil;Published by Sterling Publishers Private

Ltd. L 10 Green Park Extension, New Delhi-110 016, 1988. Pp 124 +x, Price Rs. 110/-

The impasse through which international economic relationships are possing various problems to be tackled by the developing as well as the already industrialised nations of the west. From India's standpoint, for practical purposes, a study of the "negotiating concerns" for 1980s, within the frame of India's varied and long experience of the development dialogue at the imternational level was considered useful'in the present context. To undertake such a study in the Ministry of External Affairs supported a project through the Indian Council for Research on International Economic Relations, New Delhi to be completed by Dr. R.M Honaver, Chief Economic Adviser in the Ministry of Finance soon after his retirement in collaboration with Dr S.V Bokil who had been teaching and doing research on international issues The project was tenable at the Institute for Financial Management and Research at Madras which Dr Honavar joined on his retirement The present volume is a result of this collaborative effort which was completed during 1982-85 and presented to a workshop held in January 1985 attended by policy makers, academics and leading 'negotiators' in private and public sector The research study was subsequently revised in the light of comments received at this wokshop and finally published in the book form for wider circulation. K B Lall, I C S (retd), Chairman of Indian Council for Reseach on International Economic Relations has been the spirit behind this study

The issues in the context of a New International Econimic Order (NICO) specially for India in relation to international negotiations in the eighties arise out of the following five considerations.

(1) What do NIEO demands really imply ?
(2) What are India's interests, and what reforms under NIEO serve India's interests ?
(3) Which other reforms, outside NIEO, should India convass for ?
(4) What about the negotiability of NIEO ? and
(5) What scale of priorities should India adopt to rank these reforms ? The study aims at answering these questions Half the length of the study was devoted to NIEO demands, North-South Issues, North-South Dialogue, and the rest to the various aspects of Bretton Woods System and International Monetary Problems. With regard to India's principal concerns and North-South Issues the authors have discussed the various problems under three main groups namely India's purely domestic interests, India's group interest—her intersts in the South, and India's interests in systemic issues While discussing these three components of the issues, the authors have mentioned that the chapter reflects their own assessment of India's legitimate concerns and therefore no direct reference could be cited. They also hoped that the discerning readers would notice a good deal of similarity in the discussion in the chapter and the debate that constantly goes on on the issues of nation building.

With regard to North-South Dialogue, the authors have listed the series of negotiations which have importantly affected the economic relationships between various developing and the industrial west. The influence of oil exporting countries, and the impact of Soviet bloc of countries as well as of their relationship with China have been discussed in this chapter. In dealing with negotiating framework in the context, the authors have acknowledged that their comments are influenced by Rothertein Robert's paper **'Is the North-South Dialogue Worth Saving'** which appeared in January 1984 in Third World Quarterly. They have finally stated that the reforms in this regard should consist of (i)'functional incrementalism', (2) 'participant incrementalism', and (3) 'structural incrementalism'.

The chapter on the Rationale Behind International Agreements, according to the authors, is based on the theory of collective goods, the hegemonic stability literature and the instability that ensures when the hegemon loses this hegemony. They have also acknowledged that the matter in the chapter specially with regard to theory of collective goods drew heavily on the recent literature on the theory of regimes and the theory of negotiations Among the various references on this subject, the contributions of Robert Keohane have been the main source.

For the problems relating to Bretton Woods System and the recent international monetary crisis, the authors have summarised the information in the Annual Reports of the Bank of International Settlements and such other reports. In the conclusion, the authors with regard to NIEO demands, have stated that there seems to be no evidence of any deeper design to destabilise the current international power configuration" They have also concluded that "we have pleaded for (i) exchange rate stability through reference rates with target zones, (ii) interest rate stability through macro-economic coordination in the West, (iii) global control over liquidity through making SDRs' an ultimate reserve asset, and (iv) symmetry of adjustment throught reserve indicators as proposed by the Committee of Twenty"

Bepin Behari

BUREAUCRACY, ORGANISATIONAL BEHAVIOUR, AND DEVELOPMENT. Prayag Mehta. SAGE Publication, New Delhi. 1989 Pp-187 Price Rs. 175/-

To redeem the pledge to "wipe every tear from every eye" in our tryst with destiny, independent India began its journey forty-two years ago To carry out the task in an emotionally charged atmosphere of freshly acquired political independence, the country was led by a political leadership which had in-built hostility towards 'the steel frame', the Indian Civil Service, the chief instrument available to them in carrying out the task at ground level. Almost all leaders as also ordinary citizens then considered ICS as an

organisation designed by the colonial rulers basically to serve the imperial interests by subjugation and exploitation of the Indian people. Nehru, in particular, had strong reservation about the ICS and wrote that "no new order can be built up in India so long as the spirit of the ICS pervades our administration and public service".

The spirit of the ICS, no doubt, underwent a change and ICS people became Nehru's principal advisers until the service finally withered away in 1980 with the retirement of the last member of the ICS. Its mantle fell on the Indian Administrative Service. The book under review is a competent documentation of the post-independence organisational behaviour pattern of the bureaucracy vis-a-vis the task of development. This study is a well-structured one backed by in-depth interviews with well-designed and candid questionnaires, relevant data and other research material. The study reveals that though undergoing some sort of change in ethos, the IAS continues to persist "in the image of the ICS with all its drawbacks" resulting in some sort of "split between the 'desirable' and what actually happened in practice-a split between word and deed". According to Professor Mehta there is need for widespread redesign and reforms for promoting positive elements within the work structure and culture in order "to inculcate development orientation in the bureaucracy".

This book, produced neatly, is a valuable addition in the area of social science and will surely be much appreciated by a wide range of people from administrators and politicians to voluntary agencies and social scientists.

P. Ghosh Dastidar

Lure of Everest, Brigadier Gyan Singh (With Foreword by Jawaharlal Nehru), Publication Division, pp. 149, Price Rs. 16, Revised edition 1989

Throughout the colourful panorama of history, the high Himalayas have always fascinated Indian mind. In the ancient epoch, our Rishis went to seek solitude in the Himalayas and sought communion with Nature; the Moghuls built fascinating gardens and encouraged horticulture in Kashmir; in the modern period both the British and the Indian administrators built roads and encouraged the people to travel widely and deeply into the interior of the mountain ranges. Commented Jawaharlal Nehru on the beauty and mystery of mountain Thus: "These Himalayan mountains have attracted people from afar, and indeed it is the people from othe countries who have braved them before an Indian went up. Even so the Himalayas are not only near to us, but very dear also for they have always been a part of our history and tradition, our thinking and our poetry, our worship and our devotion; they are in our blood and are a part of our make-up... The spirit and the lure of the Himalayas is spreading now all over India among our young people and that is a sign and symbol of the new life and the new spirit that is coursing through India's veins."

Brigadier Gyan Singh has written a fascinating narrative of the first Indian Expedition to Everest. The expedition reached 28,300 feet but due to "strong winds and blinding snow causing damage to Oxygen bladders" the team could not land on the Everest peak on 24th May 1960. For Jawaharlal it was a magnificent failure. He told the leader of the expedition: "Bring me thy failure". This forms the opening chapter of the book. Nehru wrote in his foreword: "To talk of success or failure in reaching the peak has no doubt some significance, and yet it has no great meaning. The story worth telling and worth listening to is the story of the effort, of dangers faced and overcome, of the comraderie of those who jointly undertook this great task and of the close communion with these high peaks and mountain regions, where silence ever dwells and human beings come out of their little shells and have glimpses of some of the deeper mysteries of nature."

Lucidly and elegantly written with amazing mastery of details, Brigadier Gyan Singh has given us a penetrating portrait of climbing hazards and difficulties The book will no doubt inspire the younger generation to attempt greater adventures to bring greater glory to India and the world.

The publication contains many interesting photographs and is very moderately priced

N.M. Khilnani

(Contd. from page 16)

reported to be seized with the problem of special attention for the shifting cultivators and are in the process of formulating appropriate strategy in this regard in consonance with the National Forest Policy of 1988 for a symbiotic relationship between the tribal people and the forests. In conformity with this decision, and keeping in view the recognized need to help the tribal people to develop along the lines of their own tradition and genius, the strategy for *jhum* control efforts needs to be formulated judiciously

The fact that *jhumming* is still the preferred mode of agricultural practice with the tribal people of the north-east and this is still their major economic activity suggests that there ought to be some merit and some reason for the survival of the *jhumming* system upto the present time. The major problem of *jhumming* is due to the compulsion of shortening the *jhum* cycle from 20-30 years to bare 3-4 years now. So, while making every effort for settlement of the *jhumias* to organised cultivation, it will be appropriate to make simultaneous effort towards evolution of suitable technologies for modification of the *jhumming* system istelf. This calls for orientation of R&D efforts for quick building up and maintenance of fertility of the soil so that the tribal farmers may find some means of earning enough basically through their traditional economic system, even at the reduced period of *jhum* cycling. □□□

Food production without environmental degradation

Planet Earth is finding it increasingly difficult to cope with the pressures exerted on it by man. The congenial environment for living organisms that existed for over 3.5 billion years has been threatened with not only degradation but total destruction. The only hope lies in the fact that humanity which has almost reached the brink sems to have realised its folly and has started thinking in terms of remedial action. But the task, no means, is a simple one. Massive and concerted efforts by one and all are required to prevent further damage and to rehabilitate and restore whatever can be saved. Earnest attempts have to be made to strike a balance between the need for increased production of food to meet the requirements of an ever-increasing population and the exploitation of nature, in the process.

Experts do not mince words in describing the delicacy of the linkage between agriculture and ecology and in warning that neglect of one can have perilous consequences for the other. In other words, ecological security and food security have to go together. □□□

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Additional potential from minor irrigation sector

Continued emphasis on minor irrigation development during the Seventh Plan will extend irrigation facilities over an additional area of 8.44 million hectares. Of this 6.98 million hectares would be from ground water and 1.46 million hectares from surface water schemes. This potential would be part of the total irrigation potential of 11.5 million hectares created during the Seventh Plan period.

There has also been a phenomenal increase in the number of minor irrigation structures. 7.45 lakh dugwells, 13.95 private shallow tube wells and 16 thousand deep public tube wells would be added during this period. Twenty five lakh electrical pump sets would also be installed during the same time. External aid for minor irrigation projects is being mobilised. During the Seventh Five Year Plan, 4 World Bank assisted projects, 3 USAID projects, 3 EEC assisted projects and one Dutch assisted project are under implementation.

Minor irrigation includes all ground water schemes and those surface water schemes which have a culturable command area less than 2000 hectares. This sector has played a key role in the development of water resources and more specifically for the development of irrigated agriculture. □□□

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RURAL POVERTY

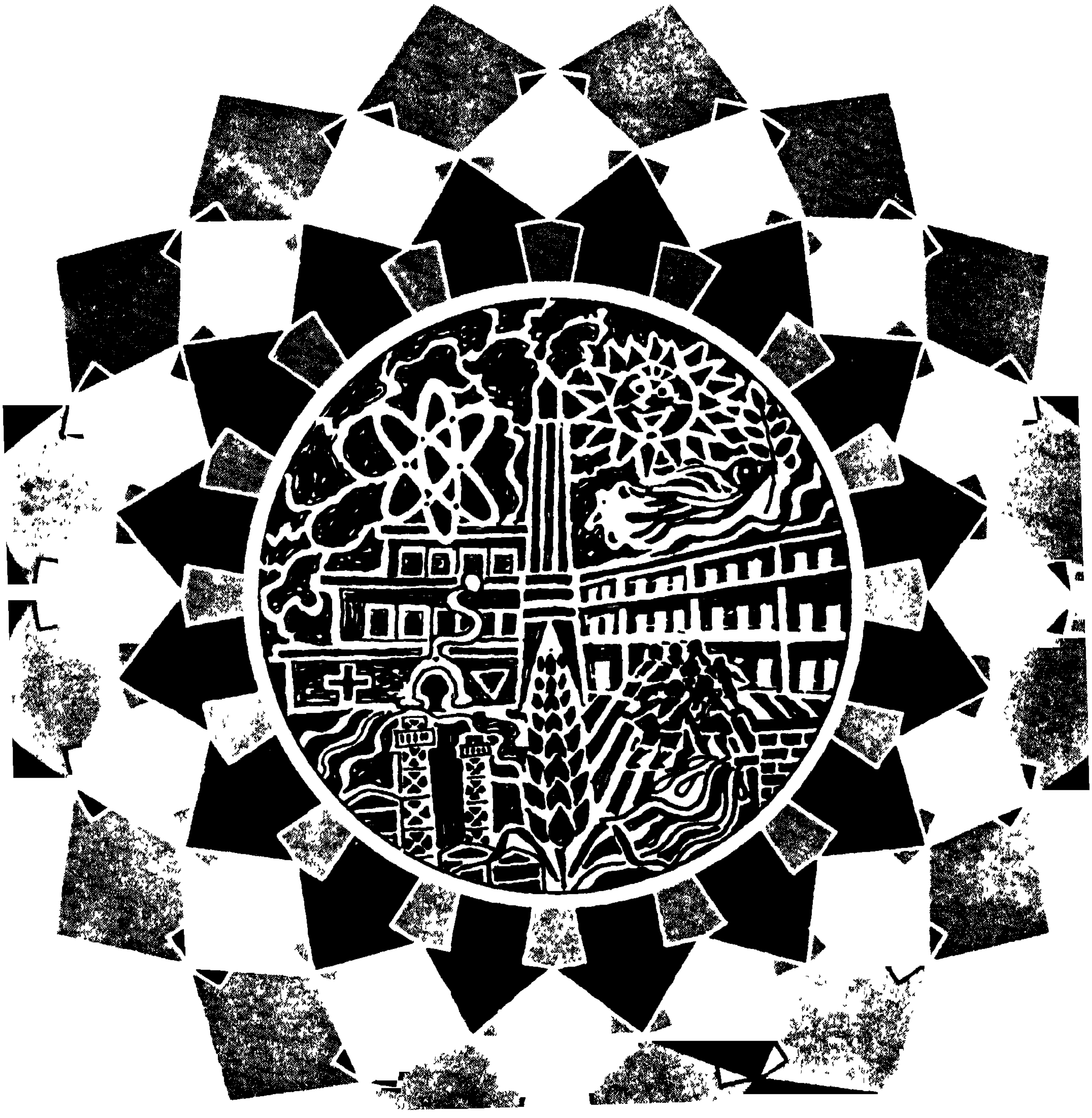
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Next issue
TAX STRUCTURE

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Rs. 2



Over Rs. 460 crore crop insurance claims paid

Over 36 lakh farmers were covered under the Comprehensive Crop Insurance Scheme in 1988-89 in 14 States. The insurance companies paid claims of over Rs. 27.8 crores. Maharashtra topped the list of farmers covered and claims paid 14.7 lakh and 20.9 crores respectively. About 5 lakh farmers were covered in Bihar and West Bengal each and about 4 lakh in Andhra Pradesh and Gujarat each. Claims of over Rs. 2 7 crores were paid in Madhya Pradesh, Rs. 2.25 crores in Andhra Pradesh and Rs. 1.14 crores in Gujarat.

The total area covered by the Scheme in 1988-89 comes to about 62.5 lakh hectares in the 14 implementing States of Maharashtra, Gujarat, Madhya Pradesh, Andhra Pradesh, Bihar, Orissa, West Bengal, Tamil Nadu, Kerala, Assam, Meghalaya, Himachal Pradesh, Tripura and Goa.

Since Kharif 1985 to Rabi 1989, Rs. 460.89 crores have been paid to farmers out of the total claim of Rs. 580.57 crores.

The Comprehensive Crop Insurance Scheme is an area based and credit linked scheme, voluntary in nature. States are free to opt in favour of this scheme. It covers wheat, paddy, millets, oilseeds and pulses. The sum insured is equal to the crop loan disbursed subject to a maximum of Rs. 10,000/-, per farmer. The premium payable is 2 per cent (Wheat, paddy and millets) and 1 per cent (oilseeds and pulses) of the sum insured. Fifty per cent of the premium payable by small and marginal farmers is subsidized equally between the Central and State Governments. Indemnity claims are shared between the Central and State Governments in the ratio of 2:1. If the actual average yield in any area notified under this scheme falls short of guaranteed yield fixed for that, then the farmers who have availed agricultural loans for insured crops are entitled to an indemnity under the scheme to the extent of short-fall in the yield vis-a-vis the guaranteed yield. □□□

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War on poverty: an analysis

P.D. Vashist

In this article the author analyses the policy of war on poverty' in India. Most of the schemes envisaged for lifting the poor above the poverty line are not enduring or financially sound, the author feels. These, therefore, call for a fresh re-appraisal with sufficient cushion for further expansion. Heavily financed, long running and enduring schemes alone can win the 'War on Poverty' the author concludes.

IN A DEVELOPING COUNTRY LIKE India poverty and scarcity always go together Out of the triumvirate of factors of productivity i e labour, land and capital, the latter two i e. land and capital traditionally will be in short supply regardless of economy examined or poverty being combated. Most of the nations of the world tend to overlook these twin factors of scarcity while drawing up their development plans and trying to extrapolate them later

In any society most important economic indicator for poverty alleviation and social growth is its GNP (Gross National Product) An economy pegged to growth should provide almost as an externality a reduction in poverty.

The twin methods

Poverty can be eliminated in two ways. Firstly, through government doles or social securities and secondly, through employment or self-employment schemes. No government of the world, however, advanced and welfare oriented including Sweden or USA can keep its idle citizens on doles or charities for ever. After all, whatever the welfare schemes or largesses which aim at redistribution of incomes ultimately they involve money going out of other citizens' pockets in terms of taxes, surcharges and duties. Even if funds were to go purely out of national or state governments' exchequers, it will still deprive other citizens of their legitimate share of benfits which might otherwise accrue to them had there been no government expenditures on doles or welfare activities

This mercifully, leaves us with the second alternative of fighting poverty and helping the deserving poor' i.e. to offer them help through employment and self-employment programmes, aptly called the 'affirmative action' This affirmative action may involve the policy to take care in allocating scarce resources (jobs, college admissions, loans, promotions, reservations and subsidies etc.), to esure that the groups prevlsously discriminated will not be discriminated in future Inspite of the humanitarian and egalitarian aspects, this policy of 'affirmative action' too is likely to be resented to by the others, as they or their children may feel discriminated at the cost of those who are to be propped and likely to receive preferential treatment.

Check on population, a must

Alongside proliferation of poverty, Indian population too has been galloping at the rate of 2 1%. This has further led to indiscrimate resource exploitation, environmental despoliation and inflation worst confounded. Curiously, however, India's" War on poverty" takes us on to the first principle of economic activity: that of managing scarce resources and their optimal utilization Alongside tackling poverty and unemployment today, there is a need for us to pay more attention as a matter of policy to the economics of scarcity' rather than merely to the 'economics of growth' Total employment or elimination of poverty is a contradiction in terms as much as 'economics of abundance'.

Analysis of the policy

Our analysis involves an overview of changing structure of poverty and the role of on-going public policy in promoting employment and self-employment. Rising poverty and unemployment rate also leads to sluggishness of GNP Then there is bound to be a big gap between estimates of unemployed workforce (Which includes labour class

and white-collared jobless) physically available and official estimates of data collection as unemployment is a matter of 'value judgement'.

The principal problem in India has been what to do with the so-called discouraged workers and people who have simply dropped out of the labour force because of the difficulty in locating jobs of any kind. Then there is the scourge of disguised or under-employment. If the planners and statisticians took full account of discouraged workers, unemployment levels would. further rise. Clearly poverty and unemployment mean different things to different people and pose lots of problems and discontentment The Indian 'War on poverty' involves raising the annual household income level above the 'poverty line' i.e. Rs. 6400/- and Rs. 7200/- respectively in the rural and urban areas

In its efforts to create certain minimum standards, there is a need to redefine and broad-base the scope of the 'poverty line' which today is simply a quantitative yardstick i.e. the "line" below which a family will be considered poor. In fact 'poverty line' norms should further include certain more fixed quantitative standards e.g. housing education, medicare, nutritional requirements, family planning and last but not least, it should also account for ever escalating inflation. Levels of poverty should be assessed annually indicating the incomes required and services needed to be called 'not poor'.

It may be worthwhile to have a look at the relationship between inflation and poverty. To put the so-called phillips curve in simplistic way, lower employment is accompanied by higher inflation and vice-versa. Most government policies of reducing poverty and unemployment are budgetbased, which automatically involves higher inflation which no citizen or voter will tolerate. In the most general terms, Indian 'war on poverty' may be said to be essentially an effort to manipulate the three indicators of economic policy i.e (i) GNP, (ii) inflation and, (iii) unemployment. The long run policy of poverty eradication aims at creation of maximum employment opportunities consistent with high level of GNP and minimal inflation The reason is not only fundamentally economic, but is also a social and political reality

In order to understand the philosophy of public policy of 'war on poverty', we may analyse the approach followed in rural India. Basically, it has been a dual approach.

(a) Self-employment opportunities or IRD approach.
(b) Part time wage guarantee approach

(a) *Self-employment opportunities or IRD approach*

Under IRD programmes individuals/households/groups are provided loans and subsidies for undertaking economic activities relating to farm, non-farm or decentralized industries. Total ceiling of such schemes is Rs. 10000/- in case of individual/family units. The group or cooperative ventures may even go well beyond that. At to-day's costs, a scheme involving Rs 10000/-can hardly be remunerative or self-sustaining. Owing to obvious reasons every beneficiary may not be able to conceive of a scheme involving exactly Rs. 10000/- or undertake a group/cooperative activity as should enable him to cross the 'poverty line'. Besides, there will always be limited financial allocations owing to constraints on government's appropriations and may not cover all the identified eligible cases. This goes to amply prove that IRD approach is neither enduring nor adequate.

(b) *Part Time Wage Guarantee Approach*

These schemes include wage guarantee schemes upto 100 days in a year to the landless labourers payable 50% in cash and 50% in kind i.e foodgrains (wheat/rice). The wage guarantee programmes are work charge programmes of the government i.e. infrastructure building projects. The governments' schemes largely depend upon budget allocations and availability of funds which cannot be unlimited Besides their final placements are characterised by social, economic and political considerations and cannot cover all the villages/ entire eligible landless labourers Even if, in a given situation an individual was to get full 100 days of wage employment in a year, there is a big question mark on what does he do for the remaining 265 days, philosophy behind this being perhaps that ipso facto the village economic system would keep his hands full for the number of days he is jobless In short, the tenor of the wage guarantee programmes goes to show that they are even more vulnerable and temporary than the IRD programmes

Similarly, most of the schemes envisaged for lifting the urban poor above the 'poverty line' are not enduring or financially sound, sooner or later reverting the beneficiaries into their original status of being unemployed or under-employed In most of the cases the beneficiaries are unable to return their loans and fall in the vicious 'debt trap'.

What does our above analysis of public policy of 'war on poverty' in India suggest ? Undoubtedly, the answer lies in carrying out a fresh reappraisal of the on-going schemes which have to be re-designed and adequately financed even to the tune of Rs 50,000/- or more in case of Individual/family beneficiary programmes and a lot more in case of group/cooperative ventures. There should also be sufficient cushion for further expansion and ready availability of adequate risk fund's in order to revitalize the units becoming sick or closing down. ■■■

Rural development perspectives

Dhurjati Mukherjee

Investment in agricultural sector and agro-based village industries with mass participation is the solution for our rural poverty, says the author. The IRDP, the NREP, the food for work programme and the JRY are all aimed at rural uplift and can go a long way in gearing up the process of poverty alleviation and rural development.

IT HAS BEEN IN RECENT TIMES that the Government has given great emphasis to agriculture and rural development in an effort to raise about 70 per cent of the rural population living below the poverty line. Successive budgets have sought to tackle the basic problems of poverty and unemployment, especially since the eighties by giving priority to various programmes aimed at development of the rural sector. This year also it is proposed to launch a new intensive rural employment programme which will provide funds to selected 120 backward districts The provision for this new programme will be Rs. 500 crores in 1989-90 and the total allocation for employment programmes works out to around Rs 1711 crores which undoubtedly reflects the Government's sincerity in tackling the problems of rural development with all seriousness.

Not just in India but in many developing countries there is a heightened awareness of the urgent need to accelerate agriculture and rural development. The exploited rural population of the developing countries have started asserting themselves and Government leaders are increasingly aware that, unless they take steps to develop their rural areas through widespread involvement of the local people, they may face unrest and violence With advances in mass communication and transportation facilities, the long neglected rural people have gradualy realized that the benefits and comforts of life have all been reserved for the urban population.

Secondly with the disappearance of large surpluses in the USA and other countries and the resulting high prices, the countries of the developing world have learned that they can no longer count on continuing access to the cheap source of food which enabled them to keep food costs low in their urban areas while neglect of their rural areas and people persisted.

Thirdly. Governments are learning the need to substantially expand their domestic markets for products of urban industry by extending science-based market oriented agricultural systems among the rural people. As farm families have access to greater disposal income 'through increased agricultural projects,' they become purchasers of goods and services.

The upsurge has many roots mainly (i) an understanding that higher incomes among large numbers of rural people are fundamental for general economic advance for enhancing rural standards of living. and for enlarging domestic markets. (ii) a desire insofar as possible, to be self-sufficient in food supplies and to be insulated from international uncertainties. (iii) a wish to spend less foreign exchange on farm products that could be produced within the country. thereby increasing employment of the rural people; (iv) a fear that neglect of rural populations will lead to unrest and violences; and (v) a realization that agricultural progress can be rapid.

The issues

The immediate problem that needs to be attacked is low agricultural productivity and lack of employment of the great mass of the rural population On the developing countries and specially in India where 76.37 per cent of the total population live in the rural sector, there is a definite need to pay more attention to agriculture and agro-based and village industries. Infact, because of the urban oriented panning in India, the rural sector has been neglected and the need to give more emphasis to rural development has been felt by the planners only since the early eighties. However. the programmes aimed at employment generation, poverty eradication, rural development have not been sufficient and this is not just the case in India but applicable to most of the Asian and African countries.

However, as has been admitted. rural development

programmes have been receiving greater attention in this decade. A world Bank Sector Policy Paper defines rural development as a "strategy designed to improve the economic and social life of a specific group of people— the rural poor. "Its objectives" encompass improved productivity, increased employment and thus higher incomes for larger groups, as well as minimum acceptable levels of food, shelter, education and health."

In India as in most developing countries, there is an urgent need to increase productivity and profitability on large numbers of small farms. As in the industrial sector, the need for mechanisation and reducing costs have been advocated, so also in agriculture larg-scale mechanised farming, which have been in practise in most of the developed countries, is being emphasized. As has rightly been observed by Sterling Wortman & Ralph W. Cummings (Jr) "large-scale mechanised farming.. ..may increase production but it usually will not expand employment and raise incomes of large numbers of rural people. It should be avoided in densely populated countries."

However, there is no doubting the need to intensify agricultural productivity and gearing up the process of rural development. This is bound to differ among countries, among regions within countries and even among localities within regions. There are broadly three well-proven and complimentary approaches to accelerated agricultural development which could be catergorised as." (i) commodity-oriented programmes designed to achieve established goals for domestic consumption or export; (ii) defined-region campaigns to increase productivity and incomes of as many people as possible, using whatever combinations of commodities, techniques and services; and (iii) synchronized and reoriented government services to speed progress".

It is in this context that one may refer to Mr. C Subramaniam, who remarked sometime in the late sixties about the Indian situation that "Even small holding, which previously conformed to pessimistic portraits of low incomes and low motivation to invest, have now become profitable. This has led to a great resurgence of investment in exploitation of ground water resources in various parts of the country. Even the cropping pattern is changing, making land reproduce itself, as it were. Where only one crop was raised before, the new short-term varieties have made it feasible to use two. With this development will emerge a new land-use pattern. With double cropping, the farmer needs aid to shorten the period of land preparation between one crop and the next. He needs mechanical threshers, seed dryers, power tillers etc. A valuable bye product of this strategy may well be the growth of rural industrial base to serve these needs."

The new era of development must involve concerted efforts to move into the countryside more aggressively and systematically with roads and power systems with supply of inputs and arrangement for the marketing of agricultural products. Moreover scientists must concentrate in the rural areas to create more highly productive, more profitable farming systems and labour-intensive agro products which should contribute to the primary ingredient for all round rural development—increased income for large number of farm families.

Villages, the nerve centres

Mahatma Gandhi always emphasized the need for developing the villages, the nerve centres of the economy, where majority of the population lived Industrialization for Gandhi ran the risk of relying on machines, the mastered rather than liberated workers, stimulating an unending cycle of more and more wants and more production and creating centralized, bureaucratic and impersonal power that destroyed the community and spread alienation. Gandhi believed that the industrialization lacked limits or purpose, threatended 'self-rule' at the individual. community and national levels and put the quality of life and the environment at risk As he himself observed. "I do visualize electricity, shipbuilding, iron works, machine making and the like. But the order of precedence will have to be reversed. Henceforth industrialization has been so planned as to destroy the villages and their crafts In the state of the future it will subserve the villages and their crafts."

The need for giving more attention to agriculture and rural development was realized by Mrs. Indira Gandhi in the late sixties. Prof. B S Minhas, a member of the Planning Commission from 1971 to 1973, captured Indian perceptions of the time when he maintained. "Although the poor do not have strong political organisation of their own, nevertheless, the elitist regimes, so long as they find it necessary to face their electorates to seek their mandate to rule cannot ignore the poor who are in the majority ....The Third World Government's concern with the poor and the eradication of absolute poverty as an objective of development would, therefore seem to be in the nature of a socio-political compulsion "

Indian social scientists had come to realize that the basic industries strategy had strenghened the country no doubt but had hardly touched the poor. As has been rightly pointed out by Hollis Chenergy et. al., in a joint study by the World Bank and the University of Sussexs' Institute of Development Studies: "It is now clear that more than a decade of rapid growth in underdeveloped countries has been of little or no benefit to perhaps a third of their population."

During the seventees and thereafter, the economists in the Planning Commission started giving increased attention to Gandhi's philosophy of revitalising the rural sector through labour intensive rural industrialisation. Some of the impetus for neo-Gandhian doctrine and policies grew out of the remigration to India from advanced industrial countires of a self-critical concern for appropriate technologies that featured labour-intensive rather than capital-intensive development strategies.

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Rural poverty during 1970s and 1980s

K.S. Mandal T. Lakshmanasamy

In this article the authors analyse the impact of the shift in the rural development policy since 1970s from growth to growth-with-equity on the rural poor. The shift in the policy has resulted in reduction in the percentage of population in absolute poverty. This reduction, the authors feel, has been the result of the ameliorative measures of poverty alleviation of the 1970s and the 1980s.

AROUND 1970 THERE WAS A SHIFT in the development policy of the Third World countries from growth orientation to growth-with-equity orientation It was realized that it was not enough for development policy to pursue a high rate of growth, it is important that the growth is accompanied by improved distribution, employment and reduction in poverty (Arndt, 1983) This shift in development concern from growth to growth-with-equity in 1970s was reflected in the rural development policy in India Beginning with Small Farmers' Development Agency programme, accompanied by a host of other programmes for the weaker sections and backward regions of the country, the concern for growth-with-equity reached its culmination in extending the poverty alleviation programmes to the entire country in the year 1980 It is claimed that every third rupee spent in our planning now is spent on poverty alleviation

In this context, it is important to examine what impact this shift in the policy since 1970s, from growth to growth-with-equity, has, on the rural poor. Since 1970 was the year, around when this shift in the policy become clear, we have taken 1970 as the base year for examining this impact The situation of rural poor in the year 1970 will provide an idea about the impact of growth oriented strategy of 50s and 60s on rural poverty. We assume that any change in the situation of the rural poor due to the operation of 'pro-poor' policy in the post-1970 period should be reflected in the data that is available now on the rural poor in India for the period of early 80s

Thus, firstly, here we will examine the change, if any of the condition of the rural poor, by examining the data on the incidence of rural poverty on two points of time -1970-71 and 1983-84. Secondly, it is thought that the change in the condition of rural poor can be better perceived by taking into account the regional variation in the situation of the rural poor in this period Hence, we have also attempted a statewise analysis of the change in the situation of the rural poor during this period.

People in poverty

The shift in policy from growth to growth-with equity should have an impact, if at all, on the number of people in poverty. Starting with Dandekar and Rath (1971), numerous scholars have estimated the population in India below the poverty line. Without going into these different estimates, we will use here the Ahluwalia (1978) estimate of the percentage of people below poverty in the year 1970-71, and then compare it with the percentage of people below poverty line in 1983-84 (both are calculated from NSS data). The 1983-84 figures are worked out following the method adopted by Ahluwalia Ahluwalia's method is concerned with the extent of absolute poverty in India He has defined absolute poverty with respect to a fixed poverty line in terms of real per capita consumption We prefered Ahluwalia's estimate as that is suitable to analyse the trends in rural poverty over a period of time for India as whole as well as for individual states Table 1 presents the statewise change in the percentage of rural population in poverty over the period 1970-71 and 1983-84.

Table 1 shows that during this period (1970-71 to 1983-84) the percentage of people below poverty has decreased in the all India level as well as in all the states, except Assam. Keeping aside this exception of Assam, can we attribute this decline in poverty ratio to the change in the policy from growth to growth-with-equity. We may not be justified in concluding so, if we find that even before this shift in the policy,

giving special priority to poor, there had been a reduction in poverty. In other words, during 50s and 60s, rural poor did not attract special concern of the planners like the 70s and 80s. The impact of growth-oriented approach of 50s will be reflected in the estimate of poor below poverty in the 1960. Similarly the impact of pro-growth policy of the 60s on rural poverty will be reflected in the estimate of poor in 1970. Hence, what is called for is an examination of change in the poor in poverty during 60s and 70s. Fortunately, these estimates are also available in Ahluwalia (1978); whose estimates we have adopted in Table 1 In Table 2, we have presented the percentage of rural population in poverty during 1960-and 1970-71, from Ahluwalia. Interestingly, this table shows that during the period when main concern of our rural development policy was growth, the percentage of poor increased in the all-India as well as in the states, except Andhra Pradesh and Maharashtra. Thus, we observe that during the period when rural development policy was concerned primarily with growth, there was an increase in the percentage of people in poverty. But, when there was a shift in the policy from growth to growth-with-equity, we observe that percentage of people in poverty decreased. Thus, we may conclude that the shift in policy from growth to growth-equity might have shown result.

Table 1

Percentage of Rural Population in Poverty by States, 1970-71 and 1983-84

States	Percentage of Rural Population in Poverty 1970-71	1983-84	Percentage change during 1970-71 to 1983-84
Andhra Pradesh	41.0	20 0	-21 0
Assam	35.3	44 5	+9 2
Bihar	59 0	56 6	-2 4
Gujarat	43 8	16 5	-27 3
Karnataka	47 2	34 9	-12 3
Kerala	62 0	27 7	-35.7
Madhya Pradesh	52.9	38 1	-14 8
Maharashtra	46 6	35 7	-10 9
Orissa	65 0	55 4	-9 6
Punjab and Haryana	23 6	8 3	-15 3
Rajasthan	41 8	23 5	-18 3
Tamil Nadu	57 3	44 8	12 5
Uttar Pradesh	40 6	38 0	-2 6
West Bengal	70 1	53 5	-16 6
All India	49 1	34 3	-14 8

Note Source of 1970-71 estimates are Ahluwalia (1978) and 1983-84 estimates are calcultated following Ahluwalia's method

Table 2

Percentage of Rural Population in Poverty by States, 1960-61 and 1970-71

States	*Percentage of Rural Population in Poverty* 1960-61	1970-71	*Percentage change during* 1960-61 to 1970-71
Andhra Pradesh	50 1	41 0	-9 1
Assam	25 6	35 3	9 7
Bihar	41 5	59 0	18 5
Gujarat	31.6	43 8	12 2
Karnataka	39.1	47.2	12 1
Kerala	57.8	62 0	4 2
Madhya Pradesh	43 8	52 9	9 1
Maharashtra	48 8	46.6	-2.2
Orissa	62.4	65 0	2 6
Punjab and Haryana	18.8	23.6	4.8
Rajasthan	32.3	41 8	9 5
Tamil Nadu	53.9	57.3	3.3
Uttar Pradesh	37.9	40 6	2 7
West Bengal	40.4	70.1	29 7
All India	42.0	49 1	7 1

Source: Ahluwalia (1978)

Regional variation

Let us take a look at the regional variation in the incidence of poverty The incidence of poverty has increased by around 10 per cent and more, during 1960-61 to 1970-71 in Bihar, Gujarat, Karnataka and West Bengal (Table 2). In states like Tamil Nadu, Orissa, and Uttar Pradesh the percentage of population in poverty increased marginally, i.e., around 3 percent. In Andhra Pradesh and Maharashtra population in poverty declined. The largest increase is in West Bengal, 29.7 percent.

In 1970-71 to 1982-83 period (Table-1), the percentage of population in poverty declined dramatically almost all over India, except Assam, where another 9.2 percent was added to poverty group. In south and east India, the incidence of poverty declined more than 10 percent In north-west states (Gujarat, Punjab Haryana, and Rajasthan) incidence of poverty reduced by more than 15 per cent The highest reduction is in Kerala, 35 7 percent The performance is modest only in Bihar.

Another interesting finding is that many states could bring down the poverty incidence by 1983-84, below 1960-61 level Only in Bihar and Assam the poverty level between 1960-61 and 1982-83 increased by 15 1% and 18.9% respectively In Uttar Preadesh, the increase in poverty during 1960-61 to 1970-71 was neutralised by the decrease in poverty during 1970-71 to 1983-84 For the period 1960-61 to 1982-83 the decline in all India poverty incidence is also impressive, from 42.0 percent to 34.3 percent, a 7.7 percent decline Thus, an increase in the incidence of poverty during 1960-61 to 1970-71 (7.1 percent) has been brought down by 14.8 percent during 1970-71 to 1983-84 The decline has more than offset the earlier increase in the incidence of poverty Thus, an examination of the statewise distribution of people in poverty also reinforces that the reduction in the incidence of poverty during the equity-oriented phase (post 1970) is higher than the growth oriented phase (pre 1970), in almost all the states.

Poverty alleviation measures

But, can we be so sure that this reduction in poverty is due to the poverty alleviation programme of the 70s

and 80s ? There are two major ways of achieving a distributive growth of the society. One is ameliorative measures, whereby attempt is made to ameliorate the condition of the poor by direct policy measures affecting the poor. The special poverty alleviation programme of 70s and 80s falls under this category. The second important measure of achieving distributive growth, can be termed as egalitarian measure, where a direct structural change is attempted by redistributing productive assests in favour of the poor. For example, redistribution of land has been attempted since independence through land reform measures. Of late, however, land reform lost its favoured position in the policy of rural reconstruction out of the realization of the difficulty in its implementation (Atkins, 1988).

Since land reform losts its charm, a shift in emphasis in favour of ameliorative measures like poverty alleviation has taken place. However, the fact remained that land reform is still one important agenda in our rural reconstruction policy. Thus, it is important to examine the change in the land redistribution during the period of our study. The redistribution of land in favour of the poor would be an important contributing factor in reducing poverty. Only after examining the change in the land distribution during the period of our study, we will be able to say whether the reduction in poverty that we observe, has been caused also by égalitarian measures like land reforms.

Land redistribution and poverty

The change that we observe among the people in poverty during the period 1970-71 and 1983-84 can be attributed to the ameliorative measures only if we can ascertain that these changes are not so much due to the redistribution of land. Table 3 presents the type of change that has taken place in land distribution at the all India level during the period 1953-54 to 1982 by working out the concentration ratio of land owned by different size class of households. The table shows that over the period 1953-54 to 1982, there has been an improvement in the land redistribution. However, what is significant for us is that during the period 1971-72 and 1982, there has been no improvement in land redistribution. In other words, the percentage of rural population in poverty during the period 1971-72 to 1982 has decreased dramatically in spite of no significant improvement in the land redistribution

Table 3

Concentration Ratios of Household Ownership Holdings for 1953-54, 1961-62, 1971-72 and 1982, All India

Years	*Concentration ratio (rural)*
1953-54	0.75
1961-62	0 73
1971-72	0 71
1982	071

Source: Sarvekshana, Vol. XI, No. 2, October 1987, Table-V, p. 9.

position. Thus, we could attribute this reduction in rural poverty to ameliorative measures of poverty alleviation.

It should be noted, however, that this concentration ratio has been worked out by taking all size classes of farmers into account. But the poverty programmes are not direct to all farmers. They are directed mainly to small farmers, marginal farmers and agricultural labourers. Hence, it is important to examine what type of land redistribution took place within these poverty groups. Table 4 presents such picture. This table presents the distribution of poverty groups as well as the big farmer households (not covered by the poverty programmes) during 1961-62 to 1982. The purpose is to examine what type of land redistribution has taken place particularly among the groups that are covered by poverty programmes, i.e., among small and marginal farm households and landless labourers.

Table 4

Percentage Distribution of Agricultural Labourer, Marginal Farmer, Small Farmer, and Big Farmer Households in 1961-62, 1971-72 and 1982, All India

Type of household	*1961-62*	*1971-72*	*1982*
Big farmer (above 2 03 hectare)	24 7	21.8	18 7
Small farmer (1 01 to 2 03 hectare)	9.2	15 5	14 6
Marginal farmer (below 1 01 hectare)	54 4	53 0	55 3
Landless households	11 6	9.6	11.3

Source. Computed from NSS 17th, 26th and 37th round data

It can be seem that during the period when poverty alleviation programmes were in operation, i.e, 1971-72 onwards, land redistribution did not favour the poorer sections of the poverty groups. The agricultural labour households, the poorest segment of the rural society, in fact, increased from 9.6 per cent in 1971-72 to 11.3 per cent in 1982. Similarly, the next poorer section-marginal farmer households-also increased from 53 per cent in 1970-71 to 55.3 per cent in 1982. The percentage of the small farmer households, that are relatively better of section among the rural poor, however, reduced during 1971-72 and 1982 was not in favour of the poorer sections of the rural society.

Thus, during the period when ameliorative measures of poverty alleviation were in operation, we observe a reduction in the population in poverty, in spite of adverse land redistribution, among the poverty groups. Hence, we could safely conclude that the reduction in poverty during 1971-72 and 1982 has not been caused by land redistribution. We can say that there is ample scope to argue that the reduction in rural poverty that we observe during 1971-72 and 1983-84 may be due to the shift in the policy from growth to growth-with-equity in the 70s and 80s.

(Contd. on page 26)

Rural development through Service Area Approach

Dr. G.P. Acharya

The 'Service Area Approach' has been welcomed by many as a distinct improvement over the apporaches hitherto adopted for rural development. Analysing the expectation and apprehensions which the scheme has raised, the author says that it is another experiment that the nation has opted for to vindicate its anxiety and eagerness to lift the rural masses. How far the approach succeeds will depend on how we face the different constraining forces, the author says.

WITH THE COMMISSIONING OF THE banking sector in the services of the rural people for rural development, a new and noble experiment has began in this country since mid-sixties in developmental banking or what may be called 'socially oriented banking'. Initially it was through moral pursuasion under the scheme of Social Control and later through nationalisation of major commercial banks and the setting up of Regional Rural Banks that the nexus between the banking system and the rural sector is being continuously widened, improved and strengthened, banks assuming greater and greater risks and responsibilities in matters of making provisions for the where-withals of development and their effective monitoring. Since the role assigned to them is crucial, every bit of their operation is being closely watched, analysed and modified, injecting and incorporating required changes from time to time. But despite all this, perhaps, there has still remained certain deficiencies in the approaches and strategies in rural lending for which "these banks are severely criticised not only for poor performance and inadequate service, corruption and frauds but also for not meeting their social obligations to help rapid economic development as well as in helping the poor and the small man." It is these considerations that necessitated a thorough reappraisal of the whole gamout of exercises in rural lending at the national level and the outcome was the suggestation for the adoption of a new approach in rural lending, namely, Service Area Approach, (SAA). This being a new approach which still awaits implementation, has obviously raised hopes and fears as well. This paper basically aims at examining in some greater details the rationality or otherwise of such hopes and fears and then suggesting a few measures for insulating the scheme against the constraining forces

Background of the scheme

The idea of SAA originated from a National Seminar on rural lending held at Bombay on 9th and 10th of January, 1989 under sponsorship of the Reserve Bank of India. This Seminar was mainly convened to discuss the findings of the field studies which the Chief Executives of the public sector banks submitted after "having personally carried out field visits in rural areas covering eightyeight districts in twenty one States in November, 1987 under direction from the Reserve Bank of India" Problems centering round rural lending were discussed thread ware and "several suggestions were made at the Seminar for revamping the existing rural credit delivery system with a view to improving the quality of lending and ensuring that the bank credit was used in the most effective manner" But "the most important recommendation which was endorsed uniformally by all the participants at the Seminar was that with the estabilishment of a large number of bank branches in rural and semi-urban areas, the time was opportune to adopt a system of assigning specific areas to each bank branch in which it can concentrate for productive lending and thus contribute to the development of the area" This was accepted by the Government of India and the Service Area Approach was formally announced by the Union Finance Minister in his budget speech of 29th February, 1988.

Salient features of SSA

This SAA has many important features but the most striking features are outlined below:

(a) Identification and allocation of service area for each branch Every rural and semi-urban branch of commercial banks is to be allocated with a specific area comprising of 15 to 25 villages and in allotting villages, efforts are to be made to ensure that villages in the same Gram Panchayat are allotted to the same branch.

(b) Survey of villages in the service area for assessing the potential for lending activities and identification of beneficiaries for assistance:

Each branch is required to undertake an intensive survey of each village within his allotted area and prepare village profiles "Such survey will cover different aspects such as existing economic activities and potentialities for their expansion as also for undertaking new activities, available infrastructure in the area, existing skills of the villagers and coverage of rural families by the credit institutions etc." The village profiles thus prepared are to be kept up-dated with periodic visits and reviews.

(c) Preparation of credit plan on an annual basis for the service area by each branch:
On the basis of the village profile, a credit plan for each village has to be made projecting the demand for resources and its availability by way of deposits, including additional deposits to be mobilised and the funds that could be obtained from Head Office These village credit plans, when eggregated, would form the service area credit plan for the branch

(d) Coordination between institutions on the one hand and field level developmental agencies on the other on an 'ongoing' basis for effective implementation

For ensuring better coordination and effective monitoring, a Committee at the block level is to be formed designating it as Block-Level Banker's Committee or BLBC. All the banks operating in the block including co-operative banks, the concerned BDO and his technical staff would be the members of this Committee. The Lead Bank Officer of the concerned district would be the Chairman of the Committee. It is expected to meet atleast once in evey quarter and to discharge the following function:—

i. To discuss the credit plans of different branches and to prepare the Block Credit Plans;
ii. To review the progress in implementation of Block Credit Plan
iii. To review the progress in implementation of Government .sponsored programmes like IRDP, SEPUP etc.,
iv. To allocate service areas to new branches opened newly,
v. To monitor the recovery programmes.

Expected possibilities

The new approach has been welcomed by many as a distinct improvement over the approaches hitherto adopted. The different hopes or expectation which this new approach have raised can be discussed as under :—

(a) *Decentralised Planning Process:* Earlier it was the Lead Bank Officer who used to play the principal role in planning the credit needs for the entire district giving very little importance to the specific needs of the specific areas and specific targeted groups of people. This is intended to be replaced by a new process where the key role in credit planning is to be played by the branch manager for his own assigned area. In other words, "instead of the Lead Bank Officer advising the branch manager on say, how many bullocks or camel. carts are required to be financed in a given area, now the branch manager will himself decide how many can be financed keeping in view various parameters like the market conditions, credit absorption capacity, viability of the additional units etc "

(b) *Better exploration of growth potentialities:* The intensive household village surveys contemplated under the SAA would be of immense help not merely in identifying new productive activities but also people with exceptional talent and skill who, for want of help and assistance, have remained idle and dormant. Proper identification and timely assistance would open up great possibilities for such areas and the people therein.

(c) Intimate Knowledge: Intimate and personal knowledge of the area and also of the people with whom the banks are to deal with will go a long way in making rural lending more effective and useful.

(d) *Better supervision & recovery:* Because of the limited size of the assigned area intimate knowledge of the bankers of the productive activities of the area, both existing and potential, and also its people, the chances of funds being flown into wrong channels or their misutilisation and diversion will be minimised. Supervision would also be close and frequent and in consequence, the recovery would be better.

(e) *Better co-ordination & monitoring:* The co-ordination machinery provided at the Block Level (BLBC) undoubtedly a much better agency for coordination at the grass root

level, banks playing a major role. Fortnight meetings of the BLBCs would also go a long way in thrashing out mutual problems and finding timely solutions round the table.

Apprehended problems

Although the SAA has been widely acclaimed as an improved method of rural lending, there are, however, many who are quite sceptical and apprehensive about the fate of this new approach. Their apprehensions are bascially grounded on the following points:

(a) *Freedom enchroached:* It is alleged that "the fundamental right of every customer to choose his own banker has not been thought of by the policy framers of service area approach." This is not a baseless apprehension. Under the SAA, all the the people in a given service area (with the only exception of non-target groups) are required to be attached to the branch bank of the concerned service area. This obviously restricts their freedom of choice.

(b) *Fear of monopoly:* Assignment of a specific area to a specific bank and allowing no other agency to operate there, would lead to some kind of monopolistic situation which in turn might tempt the branch bank of overplay its role to the detriment of the local interset. some of them may develop indifferent attitudes to clients, may not be helpful and customers may be held to ransom as they cannot approach other braches to whom they are not attached." Further, absence of competition might give rise to corruption. inefficiency and lethargy.

(c) *Difficulty in allottment & transfers:* Although the scheme provides for the allotment of 15 to 25 villages to each service area on certain principle like 'cluster approach' or on considerations of contiguity and proximity, in actual practice, however, it would be very difficult task. Not merely it would be difficult to restict the number within the range of 15 to 25, deciding distribution of villages qualifying allotment to more than one branch might also pose complicated problems Further, in transer adjustments, the problems are likely to be still more complicated. "For want of braches, some of the urban braches have been financing rural areas in a big way by giving long term loans/advances. These urban braches will be reluctant to shed their advances to the service area branch and they may continue to finance their existing clients The position will become still difficult if the existing clients wish to stick to their present bankers for sentimental reasons..."

(d) *Dearth of manpower:* The problem of finding people and a kind of people with committment and missionary zeal for work in rural areas against all oadds and obstacles had already been worrying the management with no solution at sight. It is not known how the problem of personnel is to be tackled under the new approach where the need for personnel will be much greater.

(e) *Greater strain on the brach manager:* Being the single important financing agency in the given area the branch manager is likely to become a victim of all kinds of pressure tactices from different fronts, specifically from the politicians. Earlier it was being shared or absorbed by many agencies and in consequence there was a kind of diffusion of tension and also the attached risk. But this is no more possible now

An evaluation

Much of the hopes raised or expections projected appear to be little over stressed or exaggerated especially when viewed in the light of the background of our past experience in rural lending on the one hand and also the different fears which have been apprehended on the other side. It may be noted that no effort to lift the rural mass from the poverty trap would yield any result unless and untill it is adequately supported by the required infrastructural arrangements A back loan, for instance, can easily be given to the poor to purchase a cow but if care is not taken to increase fodder resources in the village or to improve the productivity and management of grazing lands, the cow can only lead him to bankruptcy if he is honest and sincre or to sell the cow and make the living for few days better if he is dishonest. Secondly, a drastic change is also called for in the very attitude of the authorities at different levels in their perspection of banking system." The bureaucratic attitude of fulfilling the targets must change over to a market oriented entrepreneurial attitdue" Further "policy makers should consider rural banking as development oriented activity and not a mere welfare activity Bankers must approach rural banking with a marketing approach and not with a target fulfilling approach. The basic distinction between loans, grants and sales must be maintained. If rural banking is viewed simply as a welfare activity we would continue to sacrifice commercial viability and genuine economic development." Thirdly, the different functionaries as associated with rural lending at the grass root leve seems to have failed so far in projecting for themselves a good image by demonstrating the right kind of leadership qualities or even the required sense of involvement and committment. Rural banking, it may be noted, cannot be developed by risk-averting, compliant personnel. It should be handled by bankers who have a positive sense of involvement, can transcend bureaucracy and use their entrepreneurial abilities. Above every thing, what is more important and urgent is the need for a conducive political setting or framework. The whole gamut of exercises on rural leanding needs to be adequately insulated against frequent political

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Rural development –A re-appraisal

Moin Qazi

The ideal programme for the development of the rural masses should envisage the involvement of the diverse sections of the population in various areas of production. Our various rural development programmes have failed to fully achieve their objectives for want of this mass involvement, says the author.

MAHATMA GANDHI HAD FORMULATED a very ideal programme for the development of the rural masses in India It envisaged the involvement of the diverse sections of the population in various areas of production which constitute the village economy Thus, all the items of requirement of the village society could be available within the village itself The idea was to make the village a self-sufficient nucleus. This view took an organised shape when J C Kumarappa, a poineer in rural development, presented a resolution at the 1931 session of the All India Congress Committee, incorporating the Gandhian concept of rural development This document has provided the blue-print to all the poverty-alleviation programmes launched in the country after independence The Integrated Rural Development Programme also contained in essence the Gandhian idea of rural development

The IRDP

An observation of the process of implementation of IRDP in most of the districts would, however, reveal that the programme has only partially achieved the objectives with which it was launched A major reason for the failure is the deviation which the programme has suffered from the basic spirit envisioned by the planners. There has been no sincere effort to link the programme with the requirements of a particular village community, the skills available in the village for various activities, and the economic viability of various schemes in regard to the potential available in the village

The result was that in many cases individuals who lacked even the basic skills for a particular vocation/ activity were financed under the scheme only because they had shown a preference for that particular activity In other cases, too many individuals were considered for the same activity although there was limited scope for it.

In gauging development success, according to Gandhian thinking, did not lie in figures of GNP, but in the removal of poverty, inequalities and the productive use of all manpower "If I could produce all my country's wants by means of 30,000 people instead of 30 million I should not mind it provided that the thirty million are not rendered idle and unemployed " Gandhiji's concern was people—poor people, and his policies were people-centered He advocated technology which would not replace labour, but where labour would be used with dignity – not subsidies

Commenting on the current development scene Lakshmi Jain writes, "Seen from Gandhiji window development appears to be proceeding along a collision course vis-a-vis the poor, it is recklessly destroying even such means of subsistence as nature has long afforded them in addition to causing such wide-spread ecological damage, development has succeeded in driving a large wedge between different segments of Indian society "

Although many of the anti-poverty schemes, as well as the social forestry scheme have a 'beneficiary orientation' the 'beneficiary perspective', that is, the scheme seen from the point of view of the beneficiary, the rural poor, is missing The reality as experienced by the poor living on the margin of existence is often different from the assumptions made by the administrator It is difficult for us to understand the fears, the hesitancy, the pain and the labour with which the poor live and which therefore separates the project from its implementation, from what is possible and impossible, or what is easy or difficult for the rural poor

Rural Poverty

Rural poverty is unperceived or misperceived because of the 'distance' of the administrator and the professional from the rural poor As Robert Chambers has pointed out, the rich, the powerful and the urban based-professional are at the core, the poor, the weak and the rural people are at the peripheries leading to a systematic bias in terms of rural poverty unperceived or misperceived. There is the phenomena of brief visits, the roadsides and tarmac visits, the meeting with the more influential people in rural areas, asking the predetermined questions etc Unless the poor and disadvantaged are deliberately and persistently sought, they tend to remain in the background effectively screened from outside inquiries

Against this backdrop and the heavy financial outlay envisaged for anti-poverty effort in the Eighth Plan any attempt at streamlining procedures and broad basing people's participation in different processes of implementation of self-employment oriented IRDP or the wage-employment generating NREP and RLEGP-cannot be rejected as misconceived. Although the involvement of Gram Sabhas in the process of selection of benefiicaries seems to be desirable in the sense that it ensures public scrutiny of the selection made by block functionaries, it, nevertheless, creates avenues for political intervention in the selection process, which not only leads to unnecessary delays and disputes, but also largely results in the faulty identification of beneficiaries. But, nevertheless, there is no alternative to this system because it would be very difficult for banks to take up this task with limited manpower and the amount of time and labour involved in the performance of their present role has already put a heavy strain on banking operations

Involvement of Banks

In this respect, the comments of Governor of Reserve Bank of India (India's Central Bank) Mr. R.N. Malhotra need to be quoted at length

"Poverty alleviation programmes are handled by several agencies at village and district levels. It is not the special expertise of bankers to identify the poorest of the poor even when the guidelines are clearly laid down by national authorities Local village officials, development authorities and the body of villagers have a more important role in the identification process. Similarly, the scheme for self-employment for unemployed educated youth involves specialised agencies like District Industries Centres which identify the prospective beneficiaries and send recommendations to bank managers. Due to multiplicity of agencies, the role of bankers some time becomes vague and imprecise. Sometimes bankers do not get sufficient time to appraise proposals before sanctioning loans. As poverty alleviation programmes are very broad based and cover large numbers, it is important that their design and implementation are kept under constant review."

Despite the various constraints, banks have been appraising loan applications meticulously, taking into account the economic viability of the project and the ability of the applicant. But the limitations are obvious, for banks have also to go through all those applications which prima facie do not meet any banking or business norms and could easily be rejected by the village level functionary. For instance an applicant who does not have even the basic skills for making wax candles or incense sticks makes an application just because he was given an impression that these are profit making ventures and the VLW merely forwards it to the bank without assessing the applicant's ability or the marketing facilities available to him If such an application comes to a bank branch and has to be handled at various levels, one can easily guess the number of wasteful hours of bank work which can be obviated if only we have trained machinery at the nodal level.

Due to faulty identification, the cases of bank overdues are mounting Inadequate recovery of loans not only inhibits the ability of the system to recycle the funds but also denies the benefits of borrowing to the other needy people. Around 50 per cent of agricultural loans of commercial banks, regional rural banks and co-operative societies are not returned The following table gives a clear picture of the performance of public sector banks in recovery of direct agricultural loans

Year ended	Percentage of recoveries to demand
1982	52.2
1983	53.2
1984	51.6
1985	54 2
1986	56.5

The Committee on Agricultural lending by Commercial Banks (ALCOB) attempted to diagnose the reasons for poor recovery of rural loans. It observed that about 16 per cent of the overdue loans were due to supply side factors like the lack of effective supervision and follow up (12 per cent) defective appraisal (2 per cent) and improper selection of borrowers (2 per cent)

The demand side factors contribute to 84 per cent of overdues of which 53 per cent are on account of borrowers behaviour, misutilisation of loan (4 per cent) and diversion of funds (8 per cent). Environmental factors are responsible for 31 per cent overdues like insufficient incremental income (8 per cent) and absence of relief measures (23 per cent).

It would be necessary to improve the recovery position so that the scarce funds are made available for recycling. ☐☐☐

Rural housing in India

Prof. N. Narayana & M. Ramanjaneyulu

Housing deficit in India has been on the rise ever since the sixties. What are the reasons for this shortage? Are plan allocations to this sector satisfactory? The authors answer these through this article. All said and done, the most crucial requirement for housing development at the present time is the establishment of a proper and diversified institutional structure of housing finance and construction, says the author.

HOUSING IS HIGH IN OUR LIST of priorities It is a basic need It also generates employment. Government of India has launched a comprehensive programmes for rural housing development, particularly for economically weaker sections Proper housing exercises a profound influence on peoples' health and is recognised as an important indication of level of living. It is a matter of utmost importance in social welfare programmes of all States. A poor man in the village would never be able to assert his rights unless his possession over home is secure Thus housing has become a part of the struggle for economic emancipation. It is also essential for a man to live in peace and dignity. Housing is very much related to work. House should be close to work-site.

Housing is a universal problem now-a-days in all countries. Several studies reveal that the present rate of supply and demand for houses, the housing deficiencies in developed as well as developing countires are bound to be a chronic problem. The bulk of houseless population belong to economically weaker sections as well as socially exploited groups. The greater proportion of houseless population could be found in rural areas Although the Central and State Governments have been giving highest priority to this, the housing conditions in our country are extremely unsatisfactory

With increase in the size of population, the problem of housing has assumed enormous proportions in our country It has become acute in most of the industrial regions since early 1960's and in rural areas where three-fourth of population lives and 50 per cent of it is below the poverty line. The percentage of rural population below the poverty line is indicated in Table 1

Table 1

Rural population below the poverty line in India

Sl	Year	No of poor in million	Poverty ratio in per cent
1	1960-61	138	38
2	1970-71	200	45
3	1977-78	253	51
4	1985-86	222	40
5	1989-90	169	28

Source 1 Compendium on policy statement made in parliament Budget, 1985 2 National Sample survey resports 3 Seventh Five Year Plan, 1985-90

Housing deficit

In addition to poverty in rural areas, the frequent occurance of floods, fire and break-down of joint family system has further aggravated the problem of housing shortage in rural areas Like mass poverty, scarcity of housing has proved to be an intractable problem and remained an abiding feature of Indian reality plan after plan. The problem of deprivation is directly connected with lack of shelter and acute poverty Obviously it is easy to demonstrate the effects of poverty on housing which is clearly revealed in the growth of housing shortage. The state

Table 2

Growth of housing problem in rural India 1901-1981

Sl No	Year	Total No of House-holds	Total No. of census houses	Surplus or deficit (Col. 4-3)	Percentage of surplus or deficit
1	1901	482	502	+20	+4 56
2	1911	519	578	+59	+11 36
3	1921	521	584	+63	+10 78
4	1931	571	631	+60	+10 57
5	1941	620	664	+44	+7 87
6	1951	536	541	+5	+0 93
7	1961	690	651	-39	5 65
8	1971	795	727	-68	8 66
9	1981	908	861	-47	-5 17

Source Computed from census data 1901-1981, census of India

of housing situation in rural areas is revealed in Table 2. In the year 1901 when there were 482 lakh rural households, there were 502 lakh houses Thus, there were 20 lakh surplus houses. This situation continued till 1951. But the situation reversed since then. In 1961 when there were 690 lakh households there were only 651 lakh census houses, leaving the housing deficit to the tune of 39 lakh units. This housing deficit has grown to 68 lakh units in 1971 and 47 lakh units in 1981.

At rural level one can observe a steady and progressive expansion of housing surplus from 1901 to 1921, after which the tempo of housing supply slowed down and by 1971 the problems became very acute with 68 lakh units and by 1981 with 47 lakh units of housing deficit. The Great Depression, World War II, the partition of country and the rapid growth of households were several factors which contributed to this kind of housing situation.

Shortage in rural India

The bulk of houseless population pertains to the economically weaker sections as well as socially exploited groups like the Scheduled Castes and Scheduled Tribes. The increase of population in rural areas is far greater than that of urban areas. The shortage of housing is also related with the increase of population. Housing activity serves fulfill many of the fundamental objectives of the plan. Providing shelter helps to raise the quality of life, health, education; sanitation and creates employment and improves urban-rural and inter-personal equity through the narrowing down of difference in standards of living and finally helps generate additional voluntary savings. The shortage of housing can affect the production of a nation. The extent of shortage of houses has been shown in the Table 3.

Table 3

Shortage of houses in India

(Figs. in millions)

Sl	Year	Rural	Urban	Total
1	1961	6 6	3 6	10 2
2	1971	11 9	3 1	14 7
3	1981	15 9	5 4	21 3
4	1985-90	18-8	5 9	24 7

Source: 1. II population environment and Development, Rudder Dutt: 'Financial Express' January 10, 1985
2 Seventh Five Year Plan (1985-90) Vol II, P 212

The National Building Organisation (NBO) has estimated that the housing shortage in 1981 was arround 21 million dwelling units (16 million in rural areas and 5 million in urban areas) The shortage at the begining of the Seventh Five Year Plan has been placed at 24.7 million units (18.8 million in rural areas and 5 9 million urban areas). But apart from the existing backlog in housing, the increase of population between 1985 and 1990 would generate an additional requirement of housing units to the extent of 16.2 million, of which 12.4 million will be in rural areas and 3.8 million in urban areas.

Rural housing during Five Year Plans

Rural housing problem has been badly neglected by the Government. It was during the Second Five Year Plan that the village housing scheme was introduced for the first time. The Committe 1985-86 of Lok Sabha, 32nd Report on Housing for Landless Rural Labour noted that during the last three decades of planning the Government had not taken the problem of providing house to landless rural labour with the importance it deserves, although the Committee in their earlier reports in 1967-68 and in 1972-73 had drawn attention to the unsatisfactory performance of the village housing scheme during earlier five year plans and the apathy of the Government towards it.

An examination of the financial resource allocations under the five year plans indicates that rural housing has not received its due priority as it is evident from the Table 4.

Table 4

Rural Housing in five year Plans

Sl No	Plan	Funds Allocated (Rs. in crores)	Actual expenditure (Rs. in crores)	Percentage of achievement
1	Second Plan	10 00	3 70	37 00
2	Third Plan	12 70	4 22	33 22
3	Annual Plan	3 19	2 56	80.25
4	Fourth Plan	2 25	4 27	81 33
5	Fifth Plan	108.16	55 00	50.06
6	Sixth Plan	353 50	118 06	33 39
7	Seventh Plan	577.00	–	–

The first housing programme for rural areas, namely, the Village Housing Scheme was introduced in the Second Five Year Plan. It was introduced as a part of the total rural reconstruction programme. An

amount of Rs. 370 crore and Rs. 4.22 crore were spent on the scheme during the Second and Third Plan respectively. A crash scheme for providing free of cost house-sites to landless agricultural labourers was introduced in the Central Sector of the plan. In the Fifth Five Year Plan the scheme was transfered to the State sector and was extended to cover rural artisans also The scheme also had a provision for providing construction assistance to the beneficiaries in the Fifth Plan. The scheme which was now a part of the minimum needs programme was included in the 20-Points Programme and Rs. 108.16 crore were alloted to it Surprisingly only about 50 per cent of the amount was spent during the plan. During the Sixth Five Year Plan total outlay of about Rs 353.50 crores were alloted for rural housing, Rs. 170 crore for the provision of house-sites and about Rs. 184 crores for construction assistance During this period actual expenditure incurred was about Rs. 118.06 crores only and its achievement was 33.39 per cent only Seventh Five Year Plan includes a provision of Rs 577 crores for rural housing scheme. Of this, Rs 36 crores would be utilised to provide house-sites in respect of those States where there are landless families still to be provided house-sites and Rs 541 crores would be utilised for the provision of construction assistance

A number of housing development programmes were implemented during the plan period. Rural Housing is an important item in the Minimum Needs programme and Rural Landless Employment Guarantee Programme. Under 20 point programme there is a scheme for construction of houses for landless labourers, artisans and fisher-men and there is a provision for common approach roads, latrines and tube wells. Under RLEGP there is a scheme for construction of houses for Scheduled Castes and Scheduled Tribes known as Indira Awass Yojana Artisans, traders and craftsmen use their houses as a place of work also.

The year 1987 was designed as the International Year of Shelter of Homeless by the United Nations On the basis of that the Government of India have since formulated a phased programme upto 2000 A.D for extending the benefits of shelter to all homeless people. Indira Awass Yojana Programme has the following features, namely (i) Full subsidy, infrastructure and Social Welfare, (ii) Involvement of beneficiary house construction, (iii) Environmental sanitations, (iv) Plants and trees, (v) Social forestry, and (vi) Cluster approach.

Finance for housing

The most crucial need for housing development at the present time is the establishment of a proper and diversified institutional structure of housing finance and construction. The strengthening of the existing institutions like HUDCO, GIC and LIC and the creation of new institution like housing co-operative and building society would be necessary The vast majority of house seeking families would have to be looked after through the creation of local level housing finance societies. Steps should be taken to develop a secondary mortgage market in housing. Commercial Banks should be permitted to participate on a larger scale than hitherto in housing finance activities

Low cost technology

The first Monday of October, 1987, which the General Assembly of United Nations had designated as the World Habitat Day focusses the attention of the International Community on the housing situations of human beings all over the world. Government of India has been recognising and encouraging the efforts of State Governments and its agencies, Voluntary Organisations and individuals throughout the country engaged in the task of providing shelter which is a basic necessity of human life.

Rural Housing, under the employment programme, has to satisfy the schematic norm of achieving the minimum of 50 per cent of the total cost as wage cost. Therefore, the specification should be labour intensive and cost effective. Besides, the house should be durable This can be achieved only through such low cost technologies that can respond to the requirements of housing. Low cost technology does not mean sacrifice of quality and durability. It only means avoidance of extravagance and minimising the use of costly materials like cement, steel and wood The approach is to use locally available materials avoiding long distance transportation.

Infrastructural facilities for rural housing

Infrastructure development of house include laying of roads and drains, drinking Water facility, latrine cum bathroom,waste disposal, development of open space and electricity These are the basic amentities Besides other facilities are also provided linked with other national programmes such as National Bio-gas programme, ICDS etc., for the Welfare of beneficiaries. All these efforts are made for economic upliftment of the beneficiaries through, IRDP, NREP and other Social welfare schemes, wherever possible

Housing activity is one of the instruments for poverty alleviation in rural areas. It serves the twin purpose of Providing the rural masses with houses to live in, canals for irrigation, roads for better communications, building for schools, Panchayats etc., and also provides them employment-the key to fulfil the basic necessity of life. This programme facilitates increasing of employment, training of labourers, utilisation of local resources, acceleration of growth and reduction of disparities between rural and urban areas.

Suggestions

The rural housing in each country differs in type and degree. Some general principles which could profitably be taken into account in Rural Housing are

1. A rural housing system comprises all the buildings and infrastructures serving the rural population at the farm, community and regional levels and meeting the needs of rural settlements
2. Undertake vigorous campaign of public education and information to enlist the fullest support and participation of Government officials, political leaders and the rural population.
3. Allocating increased budgetary resources to rural areas proportionate to those alocated to urban areas, in order to promote equitable distribution of economic benefits between urban and rural settlements.
4. Promoting institutions to mobilise rural saving for reinvestment locally and set up an organised delivery system for rural credit, including loans for housing.
5. Developing and strengthening system of rural service centres and rural towns so that there is complete coverage of services, especially health and education to all rural settlements, in order to encourage a satisfactory distribution of population.
6. The development and use of local building materials and techniques to prolong their useful life. Where adquate supplies of local skill are not already available, encourage the training of local artisans and craftsmen to a minimum level of competence so that they may make full use of the materials available and supplement as economically as possible the efforts of those participating in self-help schemes.
7. Encouraging the economic production of local building materials and components by providing loans or grants to individuals, cooperatives or other groups e g carpenters to make doors and shutters and black-smiths to make hinges and bolts and brick makers
8. Ensuring as far as is practicable that building techniques should be labour intensive and conducive to the maximum production employment
9. Educating through home economics and similar programmes, rural people to have a personal incentive in constructing and maintaining better housing co-operatively as an essential part of planning for better family with Integrated Rural Development.
10. Housing programme should become a people's movement rather than a Government Programme with the participation of beneficiaries and Government machinary acting as a catalyst. This will reduce the role of the implementing agency and ensure the importance of beneficiary participation.
11 Efforts must be made to provide all infrastructural facilities to the beneficiaries such as electricity, medical care, and education facilities etc.
12 A principal aim of the agency is to provide more productive, remunerative and socially satisfactory, employment for the rural poor. Apart from providing basic facilities, consumer and management education is also required for the best use of their incomes.

To solve the housing problem, it is not desirable to have short term policy We must have a long term policy as this has been a perennial problem over many years Rural housing programme must be integrated into the over-all national planning for economic development □□□

Exports to Japan doubled

India's exports to Japan have doubled from a level of Rs. 1164.37 crores in 1985-86 to Rs. 2161.90 crores in 1988-89. In accordance with an action plan drawn up by the Commerce Ministry exports to Japan were to be doubled by 1989-90 from a level of a little over Rs. 1100 crores four years ago. The latest figures available from the Directorate General of Commercial Intelligence and Statistics (DGCI&S) thus indicate that the target of doubling exports to Japan has already been achieved a year ahead of schedule by 1988-89 itself.

Bilateral trade between Japan and India increased in 88-89 to Rs. 4783.93 crores from Rs. 3727.17 crores in 1987-88. The turnover includes Indian exports worth Rs 2161 90 crores and imports worth Rs 2622.03 crores, as against exports and imports worth Rs. 1614.89 crores and Rs. 2114.28 crores respectively in 1987-88

Although Japan is India's third largest trading partner after the US and the Soviet Union, Indo-Japanese trade is just 1% of Japan's global trade and around 12% of India's global trade. Thus, there is considerable scope for further improving and diversifying trade between the two countries.

India's exports to Japan consist mainly of raw materials and traditional items of exports like iron ore, marine products, coffee, cotton, spices etc. However, since 1984-85 exports of manufactured items. such as ready-made garments, jewellery, leather products have also been showing some buoyancy.

India's imports from Japan comprise mainly electronic items, transport vehicles and project equipment mostly against Japanese aid programmes. At the last round of bilateral trade talks held in Tokyo in May, 1989, when the Indian delegation was led by the Commerce Secretary, Shri A.N. Varma, the need for correcting India's adverse balance of trade with Japan was stressed and both sides agreed to enlarge and extend levels of trade. □□□

Seed: New Policy and Programmes

Dr. S.S. Khanna

The new policy on Seed development which came into force w.e.f. Oct. 1988, aims at providing the farmers access to best seed/planting material, besides helping the Indian Seed Industry to grow. Quality seeds ensure quality production. Seed research is the backbone of the seed strategy and this calls for tremendous efforts, liberal financial support, well-knit management and systematic approach, says the author.

SEED IS A LIVING EMBRYO AND THIS is the most vital basic input for attaining sustained growth and production of various agricultural crops. In fact seed is the real vehicle of production and other inputs like water and fertiliser can be regarded as fuel

From the inception of planning process starting in 1951, emphasis has been laid on seed plans so as to develop a network of production and distribution system of improved seed. Programmes and projects relating to seed were sanctioned in the fifties and sixties for developing infrastructural facilites In 1963, the National Seeds Corporation (NSC) was created with the responsibility of developing and promoting seed industry in the country Thereafter the State Seed Corporations, State Farms Corporations of India (SFCI), and Tarai Development Corporation were established. World Bank assistance was also sought to reorganise and expand the seed industry. As a sequel, two National Seeds Projects (NSP) were launched in 13 States.

Seed research

Seed research is the real backbone of the seed strategy. No certified seed would be worth a paise if the nucleus, breeder, foundation seeds are not of proven quality and type having the desired yield potential. The ICAR has, therefore, developed in a systematic manner 38 breeder seed production centres both in State Agriculture Universities and in its Institutes. The research areas encompass production, processing, harvesting, bagging, storing, marketing distribution, etc

Seed research is being encouraged in private sector, particularly for the production of hybrid seeds of all agricultural crops with an application of biotechnology Regular flow of information, knowledge and material to the organisations/firms in private sectors from research system is needed to achieve the desired results. Frontier areas should also be taken up like Bio-extractants, specific gene-transfers etc through collaborative approach.

Seed Production

Broadly three classes of seeds are in vogue-Breeder, Foundation and Certified. Breeder seed is produced from nucleus seed Its genetic purity, germination capacity and seed health should conform to the highest standard The ICAR has succeeded in organising it effectively and the breed seed production has increased from 5.270 to 32,000 qunitals during the last eight years

Foundation seed is an intermediate in the generation system of seed production. Seed Corporations, both public and private sectors, State Agricultural Universities and individual farms are involved in its production. During the last seven years, the production has almost doubled to a level of 5 7 lakh quintals during 1988-89.

Certified seed is the ultimate output of seed production chain and its production rose from 17.17 in 1981-82 to 65 lakh quintals 1988-89

The seed production requirement is based on seed multiplication and the seed replacement rates. The National Commission on Agriculture, in its report submitted to Government of India in 1976 suggested that paddy and wheat should be replaced after every fourth year, while the groundnut, gram and pulses after every third year. Therefore, the replacement of these respective crops would be 25 per cent and 33 per cent. The seed of hybrid varieties have to be

replaced at every sowing season with 100 per cent replacement rate.

Keeping the above concept in view and also the constraints in achieving it, tentative requirements upto the end of the century have been worked out (Table-1) It requires tremendous efforts, adequate fund allocation and well-knit management and system approach to meet the required quantity and quality of certified seed By 1995 and 2000 A.D the requirement of certified seed would be 110 and 160 lakh quintals respectively

Quality enforcement

In 1966, the Indian Seed Act was passed by Parliament for regulating the quality of seed There are 86 seed testing laboratories functioning in the country, having a rated annual capacity of 7 4 lakh quintals but testing only 4.5 lakh qunitals Seed certification agencies are 19 and are able to certify about 30 lakh quintals per year. During the years 1987-88 and 1988-89, about 10-12 per cent of seed examined by them was found to be of sub-standard quality These quality enforcement agencies should be given more teeth and their work needs strengthening, streamlining and supervising by the State Governments. Supply of samples should be a regulated feature to these laboratories

New seed policy

On September 16, 1988, Government of India announced a New Policy on Seed Development with special reference on·

(a) the import of high quality seed;
(d) a time bound programme to strengthen/ modernise plant quarantine facilities;
(c) effective observance of procedures for quaratine/port entry quarantine (PEQ), and
(d) incentives to encourage the domestic seed industry

This policy came into force with effect from October, 1988 The main aim of the New Policy is to provide farmers access to best seed/planting material and to help the Indian Seed Industry to grow.

The New Policy for the import of Seeds and planting material will cover the following categories:

(i) Seeds of wheat and paddy by ICAR system which has effective research collaboration with IRRI;
(ii) Seeds of coarse cereals, oilseeds and pulses by the National Seeds Corporation and the State Seeds Corporations;
(iii) Seeds of vegetables, flowers and ornamental plants, tubers and bulbs, cuttings, saplings, budwoods, etc. of flowers on OGL by identified categories will be allowed to be imported quite liberally.

Incentives are proposed to be provided to domestic seed industry to encourage and promote its growth and enable it to produce viable high yielding varieties, hybrid seed at a faster pace to meet the internal requirements as well as to cater to export markets Accordingly it was decided to reduce the import duty on seeds to 15 per cent. Other Incentives/ relaxations are also provided in this Policy

A high level Review Committee in Department of Agriculture, Government of India is monitoring the progress of the implementation of the policy. The Committee shall ensure that no compromise on plant quarantine procedures has been allowed to creep into the system The increase in extra costs of certified seed is because of high cost of foundation seeds, extra sowing cost, isolation cost, rouging cost, hybridization charges, harvesting cost, loss of wieght due to dryage, transport cost of processing units, weight reduction due to grading, etc In fact there are direct and indirect costs which result in the hike of the price of seed.

In order to see that a farmer uses quality seed, the Government of India is providing certain subsidies for seed production and distribution of different crops under various schemes.

Table I

Seed replacement and certified seeds requirement by 2000 A.D

Crop	*Seed rate Kg/ha*	*Multiplication ratio*	*Seed replacement (%) during 1988-89 Target*	*Achievement*	*Seed replacement requirement (%) 1994-95*	*2000A.D*	*Certified Seed Achievement during 88-89*	*(Lakh quintals) Requirement during 1994-95*	*2000 A.D.*
1	2	3	4	5	6	7	8	9	10
Wheat	100	1 20	10	6 34	10	15	17.09	23	34
Paddy	30	1.80	10	11 09	15	20	16 61	17	23
Maize	20	1 80	10	13 90	15	33	1 79	10	15
Sorghum	12	1.100	10	14 59	15	33	3.85	17	25
Bajra	4	1 200	10	42 07	33	50	3.00	5	7
Gram	75	1·10	15	4 05	10	15	2.35	5	7
Arhar	20	1 100	15	5 32	10	15	0 66	2	3
Groundnut	150	1 8	10	8 44	10	15	5 69	12	15
Rapeseed & Mustard	5	1 100	10	25 78	30	33	0.93	2	3
Soyabean	62	1 16	10	7 14	12	15	1 44	5	6
Sunflower	10	1.50	10	19,62	20	33	0 76	2	3
Total (including of other crops)							65.06	110	160

Buffer stocking of seed

In India out of a plan period of 5 years two years are normally of poor rainfall. Naturally we have to resort to contingency planning during these bad years. Buffer stocking of seed is a must to overcome implement need based cropping system to mitigate such natural and unforseen calamities It is also likely that sometimes the Seed of certain crops and varieties is produced in excess quantity which has to be stored nicely. Nevertheless it should be ensured that buffer stock should be rotated by offering the old stock for sale after stated time, say after one season and they should be replaced by fresh stock.

Future strategies

Keeping in view all the important aspects of seed production, registration, quality control, distribution etc. the following aspects deserve due attention during the Eighth Five Year Plan·

1. A well organised Seed Research programme should be set up in the country by dovetailing and reshaping the present schemes/ projects. The ICAR should continue as an apex body and SAUS should be deeply involved in this process Time has come when the Scientists have to work through interdisciplinary approach and by indicating milestone.
2. Streamlining of procedures of evaluation and release of the varieties at the State and Central level should be done by the ICAR Testing period may be reduced to two years and conducting of adaptive/minikit trials should be made obligatory before a variety is released. These trials should also be conducted through All India Coordinated Schemes
3. Seed Act of 1966 should be revised and a Comprehensive Act based upon the recent experiences after the introduction of New Seed Policy should be enacted
4. The varieties/hybrids to be imported under New Seed Policy should invariably be notified under the Act.
5. Notification of varieties should only be granted after completing of two years of final evaluation trials and that too based on the recommendation of the ICAR.
6. Denotification of the varieties should also be done as a regular exercise
7. A well detailed and documented five year plan has to be formulated which should contain review of the released and notified varieties It should cover all related aspects region/sub region-wise, including the Seed for contingent planning and also indicating the milestones. Monitoring of this is very vital and thus top level Standing Committee should be set up.
8. Specification and requirements of all category of seed of various crops/varieties should be so explicit that while implementing these no room for complacency exists.
9. In a country of our size and dimensions having diverse climatic conditions alternative off season facilities should be developed to cut short the total time required to release the variety
10. Private sector voluntary organisation should be encouraged to take up the programme of seed multiplication but no one should be allowed to violate the quality requirements.
11. Buffer stocking of seed is a must and thus certain provision should exist to cover the charges on interest, storage, obsolescence, insurance, transport etc.
12. Panchayats should be involved for developing seed villages, particularly of self pollinated crops and they may be assisted technically and financially
13. Internal quarantine check up should be conceived so as to avoid the free flow of diseases/pests from one region to another.
14. Pricing of seed should be done in a manner that efficiency costing techniques are adhered to and wherever required the tax concession and subsidy may be granted.
15. Export of certified seeds should be encouraged.

In order to achieve the above mentioned and other related strategies, liberal support in the Eighth Plan should be provided so as to ensure that the farmer gets the seed of various crops (including fodder vegetable, oil seeds, pulses, ornamental plants, medicinal and arromatic plants etc) in the required quantity, quality and at reasonable price on time.

(Contd. from page 7)

This strategy of enhanced investment in the rural sector received a fresh impetus since the Sixth Plan" and continued thereafter

The improved income streams from agricultural production, public goods creation, and small-scale industry were in turn expected to generate increased demands for locally produced goods and services, to accelerate the already buoyant growth in household savings and investment and, in circular fashion, to increase employment, income, savings, investment and production of goods and services."

The IRDP, NREP, Food for Work Programme and other such measures have no doubt demonstrated the realization that the problem of the Indian poor. who are mainly concentrated in the rural sector, cannot be solved by industrialization and urbanization. Investment in the agricultural sector and in programmes targetted for the rural poor can go a long way in gearing up the process of development.

An agriculture-cum-industry strategy can provide the growth with employment and equity and indications in India and other developing countries reveal that the new path in being followed. It is expected that the Eighth Plan will take into account all these factors □□□

Social forestry: A benefit for the poor

B.N. Mishra & S.K. Tripathy

The article provides an analytical study of the benefits of implementation of the social forestry project in some districts of Orissa. Orissa which has the highest rate of deforestation started implementing the scheme w.e.f. 1.4.83 in collaboration with the Swedish Government. The implementation of the scheme has helped develop village forests and rehabilitation of deteriorated forests through peoples participation, the author says.

THE FOREST POLICY RESOLUTION adopted in 1952 aimed at increasing forest areas in the country to 33 per cent of the total land area But this position deteriorated since 1952. Far from expanding the area under forest, they were fast losing ground. During 1951-52 to 1975-76, the total forest area deforested for different purposes like river valley projects, agricultural use, road construction, establishment of industries etc. was 4.14 million hectares and the same has now increased appreciably. India has now, out of 3,28,048 hectares of total area only 75,351 hectares of forest area, which is only 23.3 per cent of the total area. The trend of deforestation continues at a high rate for various purposes and forests are vanishing rapidly. The wood is not coming only from the demarketed forests but also from farm lands. This is evident from the fact that the recorded fuel wood harvest from State forests was of the order of 9 million tonnes out of 130 million tonnes of the estimated nannual consumption in 1969-70 alone. This rate of deforestation brings the adverse effects like flash foods, landslides, soil erosion. etc. The rate of deforestation is high in Orissa. In Orissa out of the total land area of 1,56,00 sq. km., 59 963 sq. km. constitutes forest area which is 38.44 per cent of the total area Although this is quite higher than the average forest area of the country, the rate of deforestation is also higher in the State Being one of poorest States of our country Orissa is affected by draught every year. an after-effect of deforestation.

In order to avoid deforestation and its adverse effects, the Government of Orissa in collaboration with Swedish Government has started implementing the social Forestry Programme in the State since 1 4 1983 The objéctives of the programme are,

- (i) to meet the fuel, fodder and other domestic needs of the rural population,
- (ii) to restore the ecological balance
- (iii) to check soil erosion, conserve soil-moisture and increase the soil-fertility;
- (iv) to meet the needs of forest based industries.

The project is also aimed at increasing the resources for the rural poor as well as generating employment for women.

To achieve the above objectives the project works with the following components;

- (i) Establishment of Village Forests or Village Wood Lots (VWL),
- (ii) Rehabilitation & Replantation of Degraded and destroyed forests through various scientific methods;
- (iii) Stimulation of Private Forest Plantations through various assistances;
- (iv) Establishment of new possiblilities for growing of forests for landless families through "Forest Farming For Rural Poor" (FFRP).

The Social Forestry Programme started in 4 districts. Sambalpur, Mayurbhanj, Ganjam and Cuttack-from 1984-85 was expanded to other 5 districts Puri, Balasore, Dhenkanal, Keonjhar, Bolangir from 1985-86. Although the creation of new forests near the villages to meet the requirements of the local people and afforestation programme are done by the Project, their management, maintenance and distribution of forest products are to be done by the local people.

For the success of the project the participation of the rural population is essential. For this purpose there are village Forest Committees, Joint Management Plans and Rules and Regulations for village forests.

The Village Forest Committees are formed for creation of village forests and their management. In these committees besides the Sarpanchs and Ward Members some Scheduled Castes, Scheduled Tribes, Women and other non-Governmental and Government persons are members. The Committee is to act as a link between the villagers and the project and its primary objective is to ensure participation by the villagers in allocation of lands, slection of species, designing silvicultural methods and distribution of responsibilities for the benefits from the new resources.

Joint Management Plan (JMP) is prepared for each village forest according to the advice of village committee and the Department to formalise the means of co-operation, principles of distribution of responsbilities, development of the new resources and to work out "mechanism for distributing the harvest "

A pre-condition for the success of the programme is the responsibility of protection working through prepared rules and regulations in regard to its success.

Because of the extensive base of the project 550 trained men and women have been appointed for the purpose. They are being appointed in different C.D. Blocks in which the project is worked out. Table 1 shows the C.D. Blocks and villages covered under the Project out of 314 C.D. Blocks and 50,734 villages of the State.

If we look at the evaluation of the project we can see that the achievements are very much higher than expected. Even it is sometimes more than 100 per cent of the target. This has been possible due to proper planning, proper training of the participants in the programme as well as the real co-operation of the village population in the areas in which these are implemented.

Table 2 reveals yearwise analysis of achievements of the project in various aspects in the First Phase of Implementation of the Programme.

It is found from table 2 that the total plantation has been done in 33,592 hectares against the target of 33,637 hectares in First Phase which the success of 99.87 per cent. Also the rehabilitation programme for degraded forests has achieved 97.42 per cent of target and the farm Forestry Programme has gone upto 100.07 per cent of the target which are outstanding achievements

We can very well understand the physical performance of the project in each of the districts in which the project is being worked out from the table no. 3

Table I

SFP in C.D. Blocks — Districts

	Balasore	*Bolangir*	*Cuttack*	*Dhenkanal*	*Ganjam*	*Keonjhar*	*Mayurbhanj*	*Puri*	*Sambalpur*	*Total*
No of C D. Blocks	19	20	41	16	29	13	26	29	29	314
No of C D Blocks covered	17	18	32	16	26	10	25	28	28	198
No of villages	4365	2750	6595	3214	4655	2113	4081	4826	3644	50734
No of villages covered	244	254	420	340	348	298	534	390	364	3192

Source. Leaflet of SFP, Orissa 1983-88

Table 2

SFP and its Achievements

Sl No. Category	1984-85 Target	1984-85 Achievement	1985-86 Target	1985-86 Achievement	1986-87 Target	1986-87 Achievement	1987-88 Target	1987-88 Achievement	Total Target	*Total* Achievement	*Total* Percentage
1. VLW (in ha)	1200	1203	3025	3008	6000	6159	8000	7976	18225	18348	100.66
2. Reforestation (in ha.)	1000	995	2815	2516	4500	4596	5600	5630	13915	13737	98.72
3. Rehabilitation (in ha)	1500	1287	4060	3832	4000	4065	5000	5000	14560	14184	97.42
4 FFRP (in ha.)	47	68	250	245	300	304.5	900	891.5	1497	1508	100.8
5 FF (in lakh)	14	14 95	75	68	100	103.7	160	162 62	349	349.27	100.07

VWL – Village Wood Lot, FF – Farm Forestry (Seedling Distribution) FFRP – Forest Farming for Rural Poor

Source: Social Forestry Project Evaluation Report Phase -I

Table-3

Districtwise physical performance (IST PHASE)

Plantation in hectares
Farm Forestry in lakh

Sl. No.	Districts	Village (Location) Covered Under Plantation	Under Farm Forestry	VWL	Reforestation	R.D.F	FFRP	Total Plant & Rehabilitation.	Farm Forestry in lakh nos.
1	2	3	4	5	6	7	8	9	10
01	Bolangir	328	388	1560	1070	970	124 5	3724 5	20 20
02.	Balasore	254	877	1391	920	854	123 5	3288.5	25.43
03.	Cuttack	514	1246	2343	1848	1820	183 5	6194 5	38.62
04	Dhenkanal	481	811	1906	1375	1675	160.0	5116.0	33 78
05	Ganjam	348	1784	2200	2121	1590	176 0	6087.0	31.20
06.	Keonjhar	332	692	1850	1230	1248	142 0	4470 0	39.74
07	Mayurbhanj	525	878	2355	1865	1917	209 5	6346 5	52 99
08	Puri	390	1160	2223 5	1655	1450	178 5	5507 0	57 09
09	Sambalpur	451	2037	2517 2	1653 3	2660	211.4	7041 9	50 62
10	Total	3623	9873	18345 7	1332 3	14184	1508.9	47775 9	349 27
11	Percentage of achevement against APD taget	72 46		84 54	67 67	94 56	251 48	82 94	68.48

Source: Highlights on Progress by Monitoring and Evolution Unit SFP, Orissa, (Leaflet)

The Plantation programme that is done in hectares is given in Graph No 1 and the Distribution of seedlings in lakhs is illustrated in Graph No 2 These clearly show the achievements of 1st phase of social forest project Graphs are given on page-9

In the present context, forestry is vital to bring ecological balance, to avoid natural calamities such as draught, soil erosion, etc and to recognise the environmental value for the human society The social Forestry Project in Orissa has been able to develop village forests and rehabilitation of detoriated forests through people's participation which is a progressive step towards meeting the needs of the people, increasing agricultural productivity and ameliorating climate This helps in economic development integrating the production of trees into rural economy. The project assisted 5000 villages promoting forestry production and creating forest resources not only for the people but also by the people to meet some of their basic needs and improve their quality of life The project has also been able to improve their economy creating additional gainful employments for the rural poor along with the rural women Lastly, we can say the project is the beginning for collective community management, sharing of the benefits among the poor and for a self-reliant system for a need based production forestry, specially in the rural sector of Orissa. □ □ □

(Contd. from page 10)

Conclusion

To sum up, we have argued in this paper that the shift in our rural development policy from growth to growth-with equity during 70s and 80s, has resulted in a reduction in the percentage of population in absolute poverty in India To reinforce our argument, we have shown that the growth-oriented policy of the 60s has not contributed to the reduction in the incidence of poverty, rather it resulted in an increase in the percentage of population in poverty. Further, we have shown that the observed decrease in the incidence of poverty has taken place, in spite of no improvement in the overall land redistribution position, and an adverse land distribution among the poverty groups. Thus, we attribute the reduction in the incidence of poverty in 1983-84 to the ameliorative measures of poverty alleviation of 1970s and 1980s. □ □ □

(Contd. from page 13)

interferences on flimsy grounds by the flagless politicians with the backing of strong political will.

Conclusion

The Service Area Approach, it may be concluded, is by no means entirely a total departure from the approaches hitherto adopted in so far as the basic aims and objectives are concerned. It only reflects a basic change in the modalities of operation. In a way, it represents yet another experiment that the nation has opted for to vindicate its anxiety and eagerness to lift the rural masses the great majority of whome truly represent India-through the effective use of its banking system. How far the experiment would carry us would decisively depend on how we insulate the whole apparatus against the different constraining forces outlined above. ■ ■ ■

Local government and public health

Dr. M.P. Mathur

Though public health occupies a very important position amongst civic functions, in many municipal bodies the per capita levels of expenditure on this account are far below the norms laid down. Lack of fundings or want of the revenue raising power of the municipal bodies is the cause behind this situation. The author, therefore, advocates for provision of adequate powers and resources to municipal bodies to enable them to carry out their public health responsibilities properly.

HEALTH IS A STATE SUBJECT IN INDIA Besides the state-run hospitals and other medical institutions, the local bodies such as municipal councils and municipal corporations also provide medical facilities to the people belonging to the areas of their jurisdiction under the broad functional category of "Public Health"

In addition to medical care, the components of public health are water supply, sewerage, drainage, refuse collection and disposal, registration of deaths and births, provision of slaughter houses, removing noxious vegetables and abating all public nuisances, prevention and control of infectious and dangerous diseases, school health programmes, prevention of food adulteration and so on. Certain public health functions are obligatory upon the municipal bodies, others are of discretionary. Although by and large there is uniformity in various functions of municipal bodies carried out under the broad category of public health in many states, variations can be found in certain cases. For instance, providing curative kind of medical and health services such as hospitals and dispensaries is not the responsibility of the municipal bodies in Andhra Pradesh and Kerala. Where as in the States like Gujarat, the State Municipal Acts makes it the duty of every municipality to estabish and maintain public hospitals, dispensaries and family planning centres and provide other kinds of medical facilities in the areas of their jurisdication

At present, most municipal bodies lack either the funding or the revenue-raising power to permit investment in improving or even maintaining public health services Even in urban centres with repidly growing poulations, and thus with rapidly growing needs for piped water, sanitation, medical care, etc., local government usually has little or on investment capacity. Further, municipal bodies are not only without resources of their own, but have lost the capacity to raise the funds they need by means of loans or credits, which are concentrated at national level Thus, a lack of resources is forcing local authorities either to cut down on the provision (or maintenance) of health services or to hand over the responsibility to provincial, regional or national organizations both in public and private sector. This is more true in the case of medical care which has a wide scope of investment from private sector.

Medical care

A study on municipal finances conducted by the National Institute of Urban Affairs (NIUA), recently shows that more than 50 per cent of the total spendings under the broad functional category of public health is just spent on urban sanitation, followed by water supply and other miscellaneous sectors Medical care, which includes the expenditure on both preventive and curative kind of health services, appears to be a neglected field in the municipal functions, as the level of expenditure on it was merely 7.2 per cent in 1986-87.

On top of it, approximately 56 per cent of the total municipal spendings on public health are on the salaries of staff and other administrative back up. The ratios however, vary considerably from one service sub sector to another, ranging from 76 per cent for sanitation to 28 per cent for water supply. In case of medical relief this proportion is 64 per cent.

It would be desirable to mention that at the national level, medical care has become a subject of

great governmental concern specially after 1978, when the government of India signed the Alma Ata declaration promising 'Health for All by 2000 AD'. The Seventh Five Year Plan has also listed health under the priority sector of national development. As a result, the number of medicos and hospital beds in public hospitals has gone up from 16.5 doctors and 31 beds per 100,000 persons in 1950 to 42.1 doctors and 74 beds in 1982. Even in financial terms the expenditure on health services which includes medical care, family planning, public health, etc. has been increasing year after year; from Rs. 2,990 million in 1970-71 it rose to Rs. 16,080 million in 1980-81-an increase of over 400 per cent or approximately 44 percent per annum.

At municipal level, however, the situation is very alarming which is evident from the data compiled by the NIUA for front line urban centres. It shows that although in proportionate terms, the amount of spending on public health is substantial, in per capita terms its performance is very critical in most cases and more than 60 per cent of the urban centres having a status of class-I municipal bodies are spending even less than Rs. 140 (per capita per annum at 1986-87 prices), which is the minimum acceptable norm as per the Zakaria Committee In these municipal bodies the average level of expenditure was just Rs. 55 per capita in 1986-87. On top of it, almost 94 per cent of the sampled municipal bodies have per capita expenditure even below Rs. 20/- per annum on account of medical care sector. In other health services the ratioes are between 52 per cent (sewerage) and 9.1 percent (drainage). It may be mentioned that the level of health services is generally better in big cities as compared to small cities. For medical care in particiular and public health in general this should not be the case as the incidence of illness can never be differentiated by the size class of cities. People in smaller towns should also have access to the same facilities as those living in bigger cities.

It is significant that in physical terms too, the medical facilities provided by the municipal bodies are not adequate in many of the urban centres In 118 out of 139 urban centres for which the data is available on this subject, the number of health centres and health units are far below what has been prescribed by the Committee on Plan Projects (Govt of India). According to the committee, one health unit is required for every 20,000 persons, the situation is very critical in some of the states such as Assam, Bihar, Jammu and Kashmir, Rajasthan, Madhya Pradesh, Uttar Pradesh and West Bengal

Although the role of municipal bodies in undertaking the preventive aspects of public health and in promoting health education has been increasingly recognised, yet the analysis of selected municipal budgets brings out clearly the utter neglect of these aspects of public health in most of municipal bodies. This analysis shows that municipal health programme is more oriented towards curative kind of health services rather than preventive type of medical care and a good proportion of health resources of municipal bodies are being spent on curative health services.

It is of interest that in a few municipal bodies the expenditure on curative health services is less than the expenditure on preventive health services. Hyderabad, Madras, Vadodara are some of the examples of such cases. Further, some of the municipal bodies are not providing curative health services, although they are bound to do so as per the statutory provisions of their respective municipal acts. Examples of such cases include Lucknow (Uttar Pradesh), Warangal (Andhra Pradesh), Guwahati (Assam), Khandwa, (Madhya Pradesh), and Raichur (Karnataka).

An analysis of data for a few municipal corporations shows that although in absolute terms the expenditure on both kinds of health services preventive as well as curative has gone up considerably during the fiscal period 1983-84 to 1985-86, in proportional terms (as per cent to total expenditure on public health), no favourable trend is noticed during the period under reference. In all the four municipal corporations, the proporationate share of expenditure on these services had either declined or has remained almost static It may be noted that the pattern of growth or trend is not found to be even in the cities under reference.

These figures when adjusted for price and population changes (per capita values) indicate that the rate of increase in expenditure is not favourably related to the rate of increase in prices and population growth This implies a deterioration in the level of health (medical) servies. For instance, while the absolute expenditure on preventive health in Delhi has gone up by almost eight per cent during the period 1983-84 to 1985-86, at constant prices the per capita expenditure has actually declined by more than 14 per cent

In conclusion, it may be reiterated that though Public health occupies a very important position amongst civic functions, in many of the municipal bodies, the per capita levels of expenditure on this account are far below the norms 1 and down by the Zakaria Committee. The performance is most disturbing in the medical care sector where a substantial number of municipal bodies have per capita expenditure has actually decline by more than 14 per cent

In conclusion, it may be reiterated that though Public health occupies a very important position amongst civic functions, in many of the municipal boies, the per capita levels of expenditure on this account are far below the norms laid down by the Zakaria Committee. The performance is most disturbing in the medical care sector where a substantial number of municipal bodies have per capita expenditure even below Rs. 20/- per annum.

Table 1

Distribution of Municipal Bodies by Per Capita Expenditure Levels on Different Components of Public Health, 1986-87

	Per Capita Expenditure (Rs.)					
Major Public Health Components	*Total Responses*	*<20*	*<40*	*<50*	*50+*	% Urban *Centres with Expenditure less than Rs.20*
Water Supply	138	99	28	3	8	71.7
Sewerage	126	66	51	6	3	52 4
Drainage	105	96	8	1	0	91 4
Refuse Disposal	76	52	20	2	2	68 4
Medical Care	122	115	6	0	1	94 3

Source. NIUA

Table II

Statewise Average Number of Health Units for Every 20,000 Persons, 1986-87

States	*Sampled Municipal Bodies*	*Health Units per 20,000 Persons*
Andhra Praesh	15	0 1517
Assam	2	0,0510
Bihar	4	0 4579
Gujarat	8	0 3076
Goa	1	2 4494
Haryana	5	0 1017
Himachal Pradesh	1	5 3862
Jammu & Kashmir	2	0 4601
Karnataka	11	0 1892
Kerala	5	1 3380
Madhya Pradesh	5	0.2329
Maharashtra	20	0 1943
Meghalaya	1	1 1230
Nagaland	1	1 1230
Orissa	5	0 1515
Punjab	6	0 5638
Rajasthan	9	0 4010
Tamil Nadu	11	0 0662
Tripura	1	0 6409
Uttar Pradesh	21	0 0629
West Bengal	5	0 0815
All/Average	139	0 1367

Source: NIUA

Table III

Distribution of Municipal Bodies by Expenditure on Preventive Health Services as a Proportion of Total Expenditure on Public Health, 1985-86

	Expenditure on Preventive Health Services (% to Total Expenditure on Public Health)				
City Size	*<20*	*2-5*	*5-10*	*10+*	*Total*
Metropolitan Cities	-	1	3	2	6
Class I Cities	3	1	5	4	13
Both	3	2	8	6	19
Percentage	15 79	10 53	42.10	31 58	100.00

Source: NIUA

Table IV

Per Capita Expenditure on Preventive and Curative Health Services, 1985-86

(Rupees)

Municipal Bodies	*Curative Health*	*Preventive Health*
Metropolitan Cities		
Delhi	23.51	4.40
Bombay	65 21	10.17
Hyderabad	0 37	0 77
Madras	6 74	8.11
Lucknow	–	1 69
Ahmedabad	22 44	8.51
Class I Cities		
Bhimavaram	0 72	2.64
Machilipatnam	1 65	2.71
Warangal	–	2 49
Calicut	4 36	4 32
Quilon	3 58	2 96
Guwahati	–	1.79
Burhampur	0 51	0 86
Mysore	0 62	2.65
Jamnagar	3.02	0 21
Khandwa	–	4.30
Vadodra	7 28	10.32
Belgaum	3.52	4.92
Raichur	–	1 72
All/Average	28 58	6.51

Source NIUA

Further, no improvement has been noticed in the level of health (medical) services over the period of time. This is more so in the case of the preventive health sector which is considered to be more important than the curative as it reduces the incidence of illness Many studies show that due to servere financial constraints, municipal bodies are not in a position to maintain and manage the various services they are statutorily responsible for

In general, there has been a weakening of local government in many of the cases, as a reusit of the increased centralization of decision and powers at national/state level. Therefore, the local government authorities must have the adequate powers and resources to ensure that the most urgent public interventions at the local level, such as provision of basic infrastruture and services, affordable and proper housing specially for low-income communities, technical guidance and so on, will represent a direct or indirect improvement in the health of the local inhabitants

As the core health problems in most low income settlements are focally transmitted diseases, airborne diseases, and malnutrition These three elements interact cumulatively and synergistically. This is particularly true for those below the age of five but also applies to the older age people Improved water supply and sanitation prevent the focally related disease cycles More spacious, well-ventilated housing cut down the transmission of airborne and fecally transmitted diseases. Better nutrition reduces the incidences as well as the duration of illness; it is of special importance for infants and growing children.

Strategy of planning in India

Rama Shankar Singh

The article presents an analytical study of the various strategies pursued for the attainment of the plan objectives down through our five year plans. As there has been significant change in plan objectives, the strategies also varied, says the author. He feels that there is an imperative need to maintain proper balance in the various objectives of the development strategy.

THE ISSUES PERTAINING TO THE economies of underdeveloped countries suddenly became favourite subjects of study in the western countries and over years "underdevelopment economics" has grown tremendously. One aspect is to assume a certain pattern and strategy of growth as a deliberate policy instrument whether investments should be injected in the economy in a gradual doses or a 'big push' and whether it should be 'balanced' over a number of sectors or concentrated in some areas and unbalanced. Closely allied to this has been the question of 'chocie of techniques' – capital intensive or labour intensive–in attaining the maximum rate of growth. In this context, relative priority of industrial and agricultural sectors is also considered notwithstanding the fact that the concept of priority is slippery, vague and elusive in terms of economic policy and could embrace a wide range of objectives which have to be individually specified.

However, in the ultimate analysis there is little conflict between the various strategies and pattern of growth as the basic long term policy generally centres on realising certain objectives pertaining to maximising the growth rate and, hence, the well-being of the people. For example, within the framework of long run maximal balanced growth, it is possible to plan deliberate imbalances and lags in sectoral growth up to a time period, which would be shorter than the long period. The choice of technique or the question of factor proportions in a particular industry in the process of development is also dependent on a number of consideration including the availability of resources, the rate of growth to be achieved in the economy. Similarly, development of manufacturing or agricultural sectors can in no case be isolated from each other completely as these two types of activities are related not only in terms of the common factor, labour, as Lewis type models of development show, but also in terms of the commodities necessary or available to feed the growth initiating process that involves more labour absorption than before. Again, sustenance of an initial upward thrust in investment would, among others, be a function of the rate of profits generated and ploughed back into manufacturing, and of the rate of growth in agricultural output The latter is crucial for generating agricultural surpluses.

The strategy, in the context of developmental planning in India, refers to the basic long term policy of realising certain objectives. As there has been a significant change in the plan objectives, i.e. the emphasis shifted from one important objective to another, therefore, the strategy aimed at for realisation of these objectives did not remain the same. As such, it may be appropriate to consider the strategy of planning in India as·

(i) the strategy adopted during first three plans.
(ii) the strategy adopted in the Fourth Plan and thereafter till the Sixth Plan, and
(iii) the Seventh Plan strategy.

Strategy of planning in earlier phase

In the earlier phase of development planning in India, the main emphasis was on a higher rate of economic growth and it was thought that other objectives of planning i.e. higher employment, social justice, etc., would also be realised as a result of it. Hence the strategy aimed at the realisation of this objective with its three main aspects;

(i) building up of a sound economic base for future growth;
(ii) a high priority to industrialisation when actual development started in the Second Plan; and
(iii) emphasis on the development of capital goods industries.

India got independence in a difficult situation. Long colonial exploitation, ravages of the II World War and Partition of the country etc. had done incalculable damage to the economy of the country and all efforts were needed to be directed towards solving immediate problems. Simultaneously, a process of all round balanced development able to ensure rising national income and steady improvements in the living standards over a period was also needed to be initiated. Under such circumstances, the foundation stone of planned future development of the country was laid down and the First Five Year Plan formulated the strategy which laid emphasis on the development of infrastructure and food self-sufficiency. Under the prevailing circumstances, this was certainly the most appropriate strategy for such a modest plan which was not more than a compendium of existing development schemes, some of which had been drawn up under British rule and its main preoccupations being the prevailing inflationary situation and the food shortage However, there was a clear vision of distant future in terms of macro aggregates like income, consumption, investment, saving, population etc. On the basis of these assumptions and the numerical models presented in the Report (Planning Commission 1952) Malenbaum, Raj, Bhagwati and Chakravarty, Gupta, Rudra and Perspective Planning Division presented their numerical models, though none could contemplate use of all assumptions. As such, no attempt is completely successful in linking the assumptions with the results. Neither it is clear whether lag of maturity was considered in charting out the course of decades or only for the duration of the First Plan. This leads one to the belief that this exercise had no link with the rest of the plan and, thus, it was no more than an intellectual window dressing. Any how, most the targets of this extra modest and 'ground preparing' type plan were realised and it introduced a new dynamic element in a long static and stagnation situation. This enabled the planners to successfully launch the programme of industrialisation in the Second Plan.

The work on the Second Plan started in an optimistic atmosphere. Mahalnobis two sector model was used to show the fruitfulness of a heavy industry oriented strategy and the aggregated allocations approximated the verdict of the four sector model. However, the four sector model was not used rather its purpose was to impart respectability to the plan allocations made on unspecified considerations. Despite weakness this model guided the planning practice in this country for almost a decade emphasising the need for rapid industrialisation. Being greatly influenced by the performance of Russian economy, Mahalnobis had emphasised the need to industrialise the so far industrially backward economy by using the higher labour productivity of the manufacturing sector on a larger scale. It held that agricultural development too was not possible without proper industrialisation as the latter induces development in other sectors too. Thus, while First Plan laid emphasis on agricultural development, the Second Plan gave priority to the industrial development which, it was thought, would be able to strengthen the capital base, increase productive capacity cum technical efficiency and accelerate the flow of new investment. In industrial sector too, this strategy gave highest priority to heavy and capital goods industries and the consumer goods industries were given the secondary position.

The Mahalnobis strategy did not prove altogether satisfactory because it led to shortages of essential commodities while food problem had already become acute in the later years of the Second Plan due to bad harvests. A number of incentives given to cottage and small scale industries also did not work in the desired direction. Large scale imports of foodgrains along with physical controls was resorted to. At the same time efforts were also directed towards raising the output of foodgrains. The sectoral outlay on agriculture was more than doubled than the percentage figure of the Second Plan while in industrial sector, it was reduced by 4 per cent. Though the Third Plan document did not explicitly state the model on which it was based, it was, influenced considerably by the Mahalnobis four sector model, the Demonstration Planning Model of J. Sandee and the planning model developed by S. Chakravarty. However, the basic approach of the Third Plan was exactly similar to the Second Plan inspite of its high agricultural priority.

It may be added that the level of capital formation was quite low when the Second Plan was launched. Hence, the government decided to utilise all available surplus from a completed project and explicitly acknowledged the role of foreign capital in meeting the capital deficiency of the economy. However, due to the absence of machine building industry, the government had to resort to large scale imports of machineries which along with large scale food imports resulted into foreign exchange crisis and the development strategy underlined the need for various export promotional efforts.

Thus, the earlier strategy of planning, inspite of its basic soundness, was severely criticised in many quarters by some experts for some minor snags while others rejected its basic framework outrightly. I.G. Patel criticised this strategy for its obsession with the idea of self-sufficiency and argued, "The important fact is that there are no inherent limitations to exports in a developing economy so that it would be both unnecessary and wasteful to try and erect a structure

of production,with an accent on self-sufficiency from the outset." V.V. Vatt asserted that even though growth in export oriented industries could serve the same purpose as the growth in capital goods industries, yet the Indian development strategy assigned no role to the former in the country's development plans. Admitting that initially the export possibilities were limited Bhatt added that in a dynamic context new possibilities would always emerge "and the actual selection of capital goods industries should have taken this possibility into account". A. Vasudeven, on the other hand, argued that "Indian development strategy started on an incorrect premise. It did not recognise the need for agricultural surpluses and treated the problem of labour absorption as one soluble by mere ex ante increases in monetary investment. The equality between investment and domestic savings in export sense was not conceived. Capital labour ratio for the economy seemed to have taken an aggregative form".

The earlier phase development strategy could not visualise any difficulty in meeting the current consumption demands of the people which was totally unwarranted. It also failed to explicitly identify ways and means to absorb the available labour force though the limitations of the modern manufacturing sector in providing large scale employment was well known. But the most serious criticism of this strategy has been made on the ground that in a country which aimed at establishing a socialistic pattern of society, it relied simply on the trickle down effect of the benefits from growth for solving the problem of poverty though it was clear that simply economic growth by itself was not enough to eradicate poverty and building an egalitarian society

Wage goods strategy

C.N. Vakil and P.R. Brahmanand took diametrically opposite views and put forward an alternative approach to economic planning at the time of formulation of the Second Plan. They put their entire emphasis on the role of wage goods as capital. Keeping in view the problem of open and disguised unemployment, they emphasised the need to adopt a development strategy which is able to ensure realisation of this concealed potential by transferring the surplus agricultural labour to capital producing projects so as to raise the level of capital formation They stressed the need to minimise the time to reach full employment They assumed that·

(i) labour alone was capable of producing capital goods,
(ii) food alone was the wage good, and
(iii) they assumed to create a system in which an increase in consumption in the country could be prevented subsequent to the transfer of surplus and the transferred labour's consumption farm could be siphoned off to feed it while it was employed on capital producing projects

Notwithstanding its unrealistic assumptions, this strategy did not receive the attention it deserved in the development strategy and the development process ran into difficulties after a few years.

Modifications in the Mahalnobis strategy

The strategy of development based on the Mahalnobis model, after its initial effectiveness, ran into serious difficulties due mainly to slowing down of agricultural growth, emergence of large trade deficits and a sudden decline in the saving rate. According to G.S. Bhatta, "The poor shape of the economy due to low growth rate, lack of diversification, concentration of economic power in the hands of urban industrialists and rich farmers, widespread prevalence of poverty among the rural and urban masses led to mounting discontent with the chosen path of development It was, therefore, as a consequence of poor performance of the economy that the basic strategy of Indian development came under fierce attack". Inter-sectoral and semi-inter temporal and inter-temporal plan modelling experimets carried out by Indians and foreigners, in the Planning Commission and outside, could not be made use of and the Draft Fourth Five Year Plan 1966-71 was ultimately abandoned owing to internal and international compulsions. Actually, the confidence got shaken due to sharp deterioration in economic situation and three years of 'Plan holiday' was observed during 1966-69

The new Fourth Plan was launched since April 1969 which retained the basic framework of the Mahalnobis strategy while making a few notable departures The Economic as well as the Perspective Planning Divisions of the Planning Commission had carried out separate exercises which formed the basis of the Plan model. Basic differences in the formulation of the Fourth Plan compared to earlier Plans were:

(a) the recognition of the need for sectoral balances as a check on over all consistency of Plan targets,
(b) backward planning principle with a well-defined objective specified at five yearly and fifteen to twenty yearly intervals;
(c) the room for an explicit treatment of the Indian foreign trade sector"

However, the main emphasis was placed on rapid economic growth. The plan strategy gave high priority of quick yielding projects in each economic sector and also preferred the development of light industry to heavy capital goods industry In the infrastructural sectors, roads were preferred over railways and in agriculture use of fertilizers, pesticides and HYV seeds were given priority over community development

In the early 1970s, the attack of World Bank economists on Mahalnobis strategy of development became more fierce. They argued that the strategy

did not take care of the very high incidence of poverty as growth by itself could do little to solve the problem. The Perspective Planning Division of the Planning Commission circulated[44] "A Technical Note on the Approach to the Fifth Five Year Plan" in 1973 which formed the basis of the Draft Fifth Five Year Plan 1974-79 with a change in the price base from 1971-72 to 1973-74. The focus of attention in this Plan was on (1) removal of poverty and (2) attainment of self-reliance.

To these ends, the reduction in inequality in a normative fashion and a high (feasible) rate of growth of gross domestic product on the one hand, and import substitution policy contemplated through the modification of import co-efficient and a high (feasible) rate of growth of exports. The projections for the last three years of the Fifth Plan were made in 1976 which came out almost as a mid-term appraisal. Thus, while attaching great importance to the Basic Needs Programme, the Fifth Plan stressed the need for rapid increase in domestic product for the alleviation of poverty and the development strategy of earlier phase of planning was not completely discarded.

The Sixth Five Plan 1978-83 aimed at providing basic necessities of life to the poorest strata of population for which large sums of money were allocated, for minimum needs programme and social welfare schemes like Antyodaya, Food For Work, etc With the change in government a new Sixth Year Plan for the period 1980-85 was formulated by the Congress Government Its modelling exercise comprised of a core model and several sub-models The sub-models were primarily designed to process the inputs (as exogenous variables) for the Core model In the development strategy of the Plan some obvious negative aspects were also visible due to its attempt to strike a balance between the objectives of growth and alleviation of poverty The development strategy, though influenced by the basic Mahalnobis framework, lost its earlier thrust as it incorporated a policy of appeasing the farmers' lobby by granting an unjustifiable hike in prices of agricultural commodities. In the industrial sector, licencing and controls were relaxed to appease the industrialists at home and a more open door policy was adopted towards the foreign capital to appease the capitalists abroad and specially the non-resident Indian capitalists

The new strategy of development

Although, it was not difficult to identify the points of departures from the Mahalnobis strategy in the Sixth Five Year Plan, yet the approach of the Plan was very much within the same framework. The strategy of the Seventh Plan, as stated in the draft document, however, makes a complete break from the past. The long term strategy takes into account both the objective conditions in the economy and the possible developments over the next fifteen years. The development strategy now aims at direct attack on the problems of poverty, unemployment and regional imbalances. It no longer relies on trickle down effects of economic growth alone for the realisation of these objectives. The development perspective aims at creating the conditions of self-sustaining growth by the year 2000. In order to realise this objective it visualises that the country would develop capacity to finance growth internally and would also make required technological advances and become a modern, technologically progressive economy with expanding capacity to provide the basic material and cultural requisite of well-being for all people.

The long term strategy has accorded the highest priority to creation of opportunities for productive employment for a continuously growing labour force. The current indications are that around 12 crore persons are likely to be added to the labour force of this country by the turn of this century. Hence, creation of opportunities for productive employment assumes added importance As the manufacturing and the services sectors will be absorbing only a small fraction of the growing labour force, job opportunities will have to be created mainly in the rural areas through development of agriculture, irrigation, rural infrastructure and promotion of village and cottage industries It is, therefore, that the agricultural sector occupies the place of foremost importance in the present development strategy As such, this strategy wishes to remove the obstacles to increased productivity of small farms. Along side, effective measures are sought to be undertaken to lower down the rate of population growth as well as to improve the quality of life, such as culture, education and health The strategy stresses the need to vigorously persue the specific action programmes like the IRDP, NREP, RLEGP, Jawahar Employment Schemes etc

Keeping in view the long term requirements of capital as the demographic perspectives indicate, the development strategy endeavours to improve the productivity of capital resources along side ensuring their fuller utilisation. The development takes into account the fact that the country is currently passing through a fairly capital intensive phase of development and stresses the need to sustain the growth momentum by raising the domestic saving rate.

The new strategy calls for an effective energy planning As the demands for commercial energy are growing tremendously, effective measures are required to be taken to moderate their demand. It also stresses the need to reduce dependence on imported energy as it makes balance of payment situation difficult. About the main source of energy, the Seventh Plan asserts that "coal should remain the kingpin of India's energy policy and it should replace oil wherever possible".

This strategy stresses the need to carry out structural change in the economy by raising the rate

of industrial growth to 8-9 per cent. This would be possible through a reform of management system and generation of pressure for increased competition. This strategy places greater reliance on the performance of the public sector to attain the objective and, at the same time, stresses the need for greater liberalisation of controls and the increased facilities for modernisation and technological upgradation.

Seventh Plan development strategy accepts the role of science and technology in future economic development and calls for continuous attention to be paid for its management. In order to promote technological self-reliance to the maximum extent possible, it stresses the need for linking the adaptation and absorption of foreign technologies with facilities for research and development in the country.

Appraisal of the 7th Plan strategy

The feasibility of sustained economic growth and its deliberate pursuit as an important objective of social policy with an abiding concern for equity and social justice became a vital necessity to meet the present day challenges of the Indian society. Economic growth is a process of profound structural change. In an overpopulated agrarian economy, a sustained increase in agricultural productivity is an essential condition for sustaining the momentum of growth for controlling the inflationary pressures and for expanding the markets for industrial products However, sustained development is invariably associated with a diversification of the economic structure in favour of industry. Industrialisation is, thus, an important aspect of structural change in an expanding economy, while sustaining the pace of modernisation of agricultural. And as the trickle down effect remains weak unless the overall growth rate is fairly high in relation to the rate of population growth, a balanced strategy of development has to pay adequate attention of both acceleration of the growth process and a more direct attack on the problem of unemployment and mass poverty.

Broadly speaking, the new development strategy, with its core elements such as growth, social justice, modernisation and self-reliance, seems to be moving in theright direction when compared to the earlier strategy to answer the country's present day challenges. After nearly three decades, the planners paid attention to the Vakil Brahmanand wage goods model and put forward an output model though without zero inflation component and also without quick population containment and austerity programmes. However, its great stress on agriculture and creation of agricultural surpluses are the steps in right direction. But this strategy's big push to modernisation and technological advancement in all the productive sectors has made many anxious like David Ricardo (Ricardo was genuinely purturbed at the arrival of newly invented machines threatening to displace workers in millions from jobs). However, Ranjit Sau feels that, "this negative effect can neutralised or its duration shortened by a suitable choice of technology and indsutrial mix".

Similarly, the new development strategy's intention to expose the Indian industries (which due to protected market conditions are said to have become careless about cost and efficiency) is also questioned. It is doubtful whether a competitive spirit can be generated from within a reasonable time period. Some experts also feel that in the absence of an internal pressure and inducement to improve efficiency, the threat of foreign competition may only lead to a massive destruction of India's industry and this fear is not simply a figment of imagination to be rejected outrightly. Currently, this streategy has led to a greater resort to imports on the pretext of creating a competitive environment and the balance of payment situation has further deteriorated. If the situation fails to improve immediately, the strategy may turn out to be self-defeating. As such, there is imperative need to maintain proper balance, in various objectives of this development strategy. □□□

Over 7.5 Lakh families assisted under IRDP

Over Seven and a half lakh families have been assisted to cross the poverty line under integrated Rural Development Programme (IRDP) so far during the current year. This is over 26.25 percent of the target 29,09897 fixed for the year. With this the number of families assisted under the programme goes up to 321.5 lakh families (including 50.8 lakh families) assisted earlier under the programme. Of them 41.83 percent belong to Scheduled Caste and Scheduled Tribes and 17.59 percent were women. The total investment was about Rs. 11,913.7 crores. This includes over 7,519.51 crores mobilised through banking institutions till August 1989.

By the end of the Seventh Plan 2 crore families would have been covered under the programme for supplementary dose of assistance. So far over 1.56 crore families have been given assistance.

The pattern of subsidy is 25 percent for small farmers, 33-1/3 percent for marginal farmers, Agricultural labourers and rural artisans, etc., and 50 percent for tribal beneficiaries. The ceiling on subsidy is Rs. 3000 in normal areas, Rs. 4,000 in Drought Prone Area Programme and Desert Development Programme areas and Rs. 5000 for tribal families. There is no ceiling on absolute level of subsidy for irrigation projects and only percentage ceilings are applicable. The programme is a major instrument of the government strategy to alleviate rural poverty. □□□

Steps to harness fishery resources

Ministry of Food Processing Industries has taken a number of steps to harness the vast potential of fishery resources in the Exclusive Economic Zone (EEZ). It has acquired 26 deep sea fishing vessels during the current year bringing the total strength of its deep sea fishing vessels fleet to 229. Out of these vessels, 165 are owned by the Indians and the rest are chartered from foreign shipping companies.

The Fishery Survey of India of the Ministry has recently acquired two tuna long liners under the Japanese grant-in-aid. These vessels are placed at Madras and Mormugoa bases respectively for oceanic tuna resources survey in Andaman and Nicobar waters and North West Coast. The project has also achieved significant resources finding in North West Coast, Gulf of Mannar, South West Coast, Orissa and Karnataka Coasts during the period July 1988 to June 1989.

Most of the fishing is carried out along the coastal areas. According to an estimate, there are about 23,000 mechanised boats, 20,000 traditional motorised boats and 1.8 lakh traditional non-mechanised boats which are being operated all along the coast line. It is estimated that between 16 to 18 lakh tonnes of marine fish was caught during 1988-89 and over 45 lakh tonnes of fish could be netted in the exclusive economic zone.

India exported an all time high marine products of the order of one lakh valued at Rs. 598 crores during 1988-89. The exports registered growth both in terms of quantity and value. □□□

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Loans for new dwelling units in rural areas

New housing units in rural areas can now get loans upto Rs. 50,000/-. This applies both for acquisition as well as constructing new dwelling units.

In the rural areas, the rate of interest charged will be 12.5 per cent per annum up to Rs. 20,000 loan and 13.5 per cent per annum for loans above Rs. 50,000 These areas should be places with population of 10,000 persons or less and not falling within a radius of 5 kms from urban agglomeration. National Housing Bank will be charging rate of interest of 10.5 per cent per annum to 12 per cent for loans from Rs. 20,000 and up to Rs. 50,000 from banks and housing finance institutions for rural areas.

Under the refinance scheme of National Housing Bank, refinance will be to the extent of 100 per cent of direct housing loans up to Rs. 50,000 per individual for acquisition and construction of a new housing unit not exceeding 40 Sq. mtr of built-up area. However, the parameter of 40 Sq. mtr may be relaxed at the discretion of the lending agency in rural areas provided cost of the housing units does not exceed Rs. 65,000/-. Refinance will also be available up to 100 per cent for loans up to Rs. 30,000 for major repairs and up-gradation.

The amount likely to be lent by the commercial banks by 1989-90 will be about Rs. 285 crores as against Rs. 237 crore in 1988-89. This amount will be over and above the refinance provided by the National Housing Bank to scheduled commercial banks. The refinance provided by the National Housing Bank is related to the size of accommodation and the cost. There is emphasis on small loans not exceeding rupees one lakh in urban areas and Rs. 65,000 in rural areas so as to subserve the needs of the Small Men First Scheme. Reserve Bank of India has also stipulated that out of the aggregate credit to be disbursed by the scheduled commercial banks, atleast one third should be lent directly to individuals and half the amount so earmarked should be lent in rural and semi-urban areas.

The re-finance from National Housing Bank will be additional to and separate from housing loans granted under the annual credit allocation for housing made by Reserve Bank of India. □□□

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Small saving, a people's movement

National Savings originally conceived to inculcate the habit of thrift has over the years developed into an important financial resource for meeting developmental expenditure. The net small savings collections in each State are shared with the respective State Governments and the States in turn utilise this amount for meeting the expenditure on various projects and schemes. During 1988-89, the State Governments reveived Rs. 4205 crore as financial assistance from the net small savings colections in the country. This figure was Rs. 3097 crore in 1987-88 and Rs. 2800 crorre in 1986-87. In 1985-86, the State Government's share amounted to Rs. 2903 crore. The share of the states in the net small savings collections has been fixed at 75 per cent of the collections. The above amounts are released to the State Governments as a loan repayable in a period of 25 years.

With a view to maximise the collections to enable larger flow of funds to the State Governments and also with a view to tap the different areas/section of society, various small savings schemes are administered. These schemes are Savings Bank Account, Time Deposit Account, Recurring Deposit Account, National Savings Scheme, Monthly Income Account, National Savings Certificates VIII Issue, Social Security Certificate, Indira Vikas Patra, Kisan Vikas Patra. Public Provident Fund and Deposit Scheme for Retiring Employees. These schemes have been so framed that they can cater to the various needs of the small savers.

The small savings apart from helping inculcate the habit of saving among different sections of society provide insurance cover to a limited extent and also a facility to earn good return on the investment.

The various small savings schemes are administered through the net work of 1.44 lakh post offices spread all over the country. This provides necessary facilities to everyone, whether in urban/semi-urban or rural areas to invest in small savings. The State Governments also associate Gram Panchayats and other volunteer organisations in mobilisation of savings and also provide certain incentives to them.

The small savings which originally started on a small scale, has developed into a people's movement where all, particularly the small savers can participate and thereby indirectly help in nation building. Small savings today therefore provide a better tomorrow. □□□

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Rati[illegible] of corporate [illegible] in India

A.K. Tiwari

In this paper, an attempt has been made by the author to examine the present structure of corporate income tax in India. Analysing its shortcomings the author also suggests suitable measures for its rationalisation.

CORPORATE INCOME-TAX IN INDIA had three variants till the assessment year 1987-88 viz. (i) Income-tax on total income; (ii) additional Income-tax on closely-held companies; and (iii) Sur-tax payable under section 4 of the compaines (Profits) Sur-tax Act, 1964. The spokesmen of industry have been persistently demanding the abolition of the second and third variants on the following grounds:

(a) Additional income-tax on colsely-held companies had been causing adverse effect on ploughing back of profit by making it obligatory for such companies to distribute dividend according to specified statutory percentages in order to escape the burden of this tax. Besides, this tax tended to interfere with internal financial management of the company.

(b) Sur-tax had been viewed as a tax on efficiency because this tax was chargeable in respect of only those companies whose chargeable profits exceeded the statutory deduction. Thus the incidence of this tax had been borne by efficient companies earning abnormal profits exceeding the amount of statutory deduction.

As a part of the phased reform of corporate taxation, additional income-tax on closely-held companies and surtax had been abolished with effect from the assessment year 1988-89. The withdrawal of these taxes had been widely welcomed by the protagonists of the corporate sector.

Base of corporate income-tax

Corporate assessees pay income-tax on their total income at a flat rate The income comprises all incomes accrued or deemed to accrue, arise or deemed to have arisen, and received or deemed to have been received. In case of resident companies, total income is the total world income while in the case of non-resident com-panies it is the "total Indian income".

The "total income" is very broadly arrived at with reference to the corporations profits which is derived in its profit and loss account in accordance with the method of accounting regularly employed by it. To the book profits (or losses) are then added those expenses which, though actually incurred by company, might be disallowed under the Act either partially or totally The value of tax concession earned by the company is further deducted to arrive at the base for corporation tax. The base for corporate income-tax is, thus, the commercial profits plus partially and completely disallowed expenses minus tax concessions or incentives

As a result of the operation of a large number of deduction from the gross total income, certain companies making huge profits had been managing their affairs in such a way as to reduce their tax liability substantially or even make it zero.According to a study conducted by the Economic Times Research Bureau, out of 200 giant companies the number of companies falling within the bracket of zero tax liability stood at 66 and 78 during 1980-81 and 1981-82 respectively. With a view to removing this anomalous situation, the Finance Act 1983 inserted a new section 80 VVA operative from Ist April 1984 in the Income tax Act. This new section provided that the aggregate of deductions admissible to a corporate assesse under various incentive schemes shall be restricted to 70 percent of the pre-incentive total income thereby making it obligatory on the part of a company to pay tax at least on the 30 percent of its income. Following the withdrawal of investment allowance section 80 VVA had been deleted from the statute book with

effect from the assessment year 1988-89 by the Finance Act 1987. This type of fiscal exercise would have given birth again to the same strange old phenomenon referred to earlier i.e., companies earning huge profits and yet paying no tax, had its new variant not been incorporated in section 115 J and made applicable from Ist April 1988. This section provides that in case of any company whose total income computed as per the provisions of the Income Tax Act in respect of any previous year is less than 30 per cent of its book profit; the total income of such company chargeable to tax for the relevant previous year shall be deemed to be an amount equal to 30 per cent of such amount.

Rate structure of income tax on companies

The rate-structure of corporate income-tax in India has been tailored variedly according to the domicile and nature of companies. The tax rates are different for domestic and foreign companies. As among the companies belonging to the former group, there is again differentiation in rates applicable to widely-held companies vis-a-vis closely held companies.

Prior to the assessment year 1984-85 there was some sort of graduation in the rate structure of corporate tax and as such companies having smaller income were subjected to lower rates as compared to those having higher income. However, application of lower rate of tax on small companies had been withdrawn from assessment year 1984-85. The rate-structure of corporate income-tax for the assessment year 1989-90 is given below:

	In the case of domestic company	Rate of Tax
	(i) Where the company is one in which public are substantially interested	50 per cent
	(ii) Where the company is not a company in which the public are substantially interested.	
	(a) in case of a trading or an investment company	60 per cent
	(b) in any other case	55 per cent
II	In the case of a company other than a domestic company-	
	(i) on so much of the total income as realates to-	
	(a) royalties received from Government or an Indian concern in pursuance of an agreement made by it with the Government or the Indian concern after the 31st day of March, 1961 but before the Ist day of April, 1976, or	
(b)	fees for rendering technical services received from Government or an Indian concern in pursuance of an agreement made by it with the Governments or the Indian concern after the 29th day of February, 1964 but before the Ist day of April, 1976, and where such agreement has, in either case, been approved by the Central Government.	50 percent
(ii)	On the balance, if any, of the total income	65 percent

The amount of income-tax payable by domestic companies having total income over Rs. 50,000/- shall be increased by a surcharge of 5 percent thereof.

From the above rate-structure it is clear that companies are now subjected to a flat rate of tax on all their total income with least consideration to the size of income. On the other hand, other assessees-individuals, firms and other associations of persons enjoy certain basic exemptions and pay tax at graduated rates, should their total income exceed the basic exemption limit. The following table gives the basic exemption limit, the initial and highest rates of tax applicable to individuals, firms and other associations of persons for the assessment year 1989-90.

It is, thus, clear from the above table that individuals, other associations of persons and firms enjoy certain basic exemption limit and are subjected to a graduated rate-structure whereas corporate assessees are subjected to tax on their total income at a uniform rate. As a result of such discriminatory treatment, corporate assessees bear relatively higher tax burden vis-a-vis other types of assessees, as shown in the following table.

Table showing basic exemption limit, minimum and maximum tax-rates and slab of income subjected to highest rate.

	Types of Assessees	*Basic exemption limit*	*Minimum rate*	*Maximum rate*	*Slab of income chargeable to maximum rate*
1	Individuals/ Unregistered firms, other associations of persons etc.	18,000/-	25%	50%	Above one Lakh
2	Registered firms (non-professional)	10,000/-	5%	24%	Above one Lakh
3	Registered firms (professional)	10,000/-	4%	22%	Above one Lakh

It is evidently clear from the foregoing table that all types of domestic corporate assessees are bearing higher burden of tax at each level of income than other categories of assessees viz. individuals/AOPS and partnership firms. For example, at the level of total income being Rs. 5 lakh the tax liability of an uregistered firm and registered firm stands at Rs. 2,40,713 and Rs. 2,29,412 respectively for the assessement year 1989-90 as compared to the corresponding tax liability of Rs. 2,62,500 in case of a widely-held

Table showing comparative incidence of tax on various categories of assessees on slected levels of income for the assessment year 1989-90

Income	Income-tax including surcharge payable by				
	Individual/ unregistered firm/AOPS with a determined share of members	Registerd firm (Non-professional and its four partners having no other income except the share from the firm	Widely -held domestic company	Closely -held domestic company Trading or investment	Others
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
25000	1750	750	12500	15000	13750
50000	8250	2500	25000	30000	27500
100000	30713	14880	52500	63000	57750
200000	83213	61996	105000	126000	115500
300000	135713	116180	157500	189000	173250
400000	188213	172796	210000	252000	231000
500000	240713	229412	262500	315000	288750

domestic company; Rs. 3,15,000 in case of a closely-held domestic trading or investment company and Rs. 2,88, 750 in case of other closely-held domestic company

Corporate tax-rates in other countries

The relatively higher incidence of tax on corporate assessees is chiefly attributable to the fact that the rate of tax applicable to corporate assessees in India is much higher than the corresponding rates prevalent in many developing and developed countries of the world. The rate structure of corporate tax prevalent in certain selected countries of the world is given below:

Table showing income-tax rates of corporate assessees in selected countries

Countries	Rates of corporate Income-Tax
Argentina	33% locally incorporated cc s
Brazil	35%
Canada	29%
Hong Kong	18 5%
Indonesia	15% on Ist Rp 10 million
	25% on amount above Rp 10 million but not exceeding Rp 50 million
	35% on amount over Rp 50 million
Italy	36%
Japan	33% on distributed income
	43 3% on retained income
Thailand	30% for companies listed on the stock exchange
	40% for others
U.S.A.	Upto U.S $ 50,000 ...15%
	Over U.S $ 50,000 .25%
	But not over US $ 75000
	Over US $ 75,000 .36%
Source-Lakhotia, R N	"Differential Rates of Income-tax on Companies" Paper presented at 19th All India Conference of Corporate Managers and Tax Executives organised by FICC, New Delhi (1986).

The comparison of the above rates with the corresponding rates of corporate taxation in India clearly shows that the corporation tax in India is relatively higher and as such calls for slashing down of the income-tax rates There is practically no justification for having different rates of taxes for different types of companies like widely-held companies and closely-held trading and investment companies and other closely-held companies. With the abolition of additional income-tax on closely-held companies from the assessment year 1988-89 such sort of classification of companies for tax purposes has now outlived its utility. All companies should, therefore, be subjected to a uniform progressive rate-structure for the benefit of smaller company on the pattern of the corporate tax structure of the U.S A. Accordingly following rate-schedule for corporate assessees might be enforced in India in place of the existing flat rate scheduled.

Slab of Income	Rate of tax
On taxable income upto Rs one lakh	20%
On taxable income exceeding Rs. one lakh but not excedding Rs two lakh	30%
On taxable income exceeding Rs two lakh	40%

Taxation of inter-corporate dividend

The other disquieting feature of corporate tax in India relates to the taxation of inter-corporate dividend. Such dividend is virtually taxed thrice: First, in the hands of the company which earns it; secondly, in the hands of the company which receives it; and thirdly, in the hands of individual-shareholders when they receive their respective share of dividends distributed by the recipient company out of inter-corporate earnings. In order to mitigate the inequitous nature of tax on such income under section 80M of the Income-tax Act a domestic company is entitled to a deduction of 60 per cent of

(Contd. on page 20)

Balance of Payments deficit : Problems and prospects

V Pradeep Kumar & D. Jyoti

India's balance of payments problems and the methods to finance the deficit in the balance of payments are analysed in detail in this article. The gap has widened since the early 80s because ever increasing imports have nullified the gains made by exports. The author, therefore, advocates for a more-serious effort to push up exports and to regulate imports through improvement in agricultural production, petrochemical industries and indigenisation of automobile and electronic industries.

THERE WAS NO SUCH THING AS a Balance of payments problem in the nineteenth century, and indeed it was not acute until the end of Second World War. But come the 1980s, this problem had assumed alarming proportions and the world is now left with a horrendous problem that seems to defy any amicable solution. In the opening paragraphs of this year's Economic Survey, the authors felt that "the major challenges of economic management this year have come from a difficult balance of payments situation and the continuing strain on public finance". Hence, many people and institutions are concerned about the problem of Balance of payments As of now no entirely satisfactory solution has been found to this problem, although some of the finest minds are at it In fact, management of the balance of payments in a developing economy is not an easy task However, to maintain the viability of balance of payments, it is necessary to keep the BOP under ongoing review, so that appropriate and timely corrective measures are taken as and when required.

The Problem

India had faced pressures on the balance of payments from time to time either due to certain domestic compulsions or external factors. The difficulties on the balance of payments front in 1980s have stemmed mainly from the persisting trade gap. The pressures on the balance of payments in 1974-75, 1980-81 and 1981-82 were attributed to the oil shocks. In 1981-82 the current account deficit rose seven-fold from Rs. 234 crores in 1979-80 to Rs. 1,657 crores. Export growth during the period 1974-75 to 1979-80 increased at 8.3 percent per annum mainly due to diversification of the export base, whereas the growth in import volume was confined to only 4.4 percent Foreign Exchange reserves rose continuously from Rs. 993 crores at the end of March 1974 to Rs. 5,931 crores by March 1980. Therefore, it can be observed that, the BOP position was comfortable till early 1980s.

However, this position changed in early 1980s, as imports recorded a sharp rise under the impact of the second oil shock of 1979 and a deterioration in terms of trade In 1980-81, due to the oil shock, imports shot up by Rs. 2,968 crores, while exports increased by only Rs. 375 crores. The trade deficit shot up by Rs. 2,593 crores to Rs. 5,967 crores in 1980-81 and further to Rs. 6,121 crores in 1981-82 even though the exports increased sharply by Rs. 1,189 crores as imports also went up by Rs. 1,343 crores. The ratio of current account deficit to GDP went up significantly from 0.2 percent in 1979-80 to 1.2 percent in 1980-81 and further to 1.5 percent in 1981-82. It was 2.3 per cent 1986 In 1986-87, the second year of the Seventh Plan, the balance of payments situation improved

somewhat. The current account deficit narrowed down to 5513 crores in 1986-87 and with the current account deficit GDP ratio fell to 1.9 percent from 2.3 per cent in the previous year. This contraction in current account deficit during 1986-87 was the combined result of a fall in trade deficit and improvement in invisible account. Hence, the trade deficit/GDP ratio camedown to 3.2 percent during 1986-87 from 3.7 percent in 1985-86. At, the same time, net invisible receipts from invisibles improved by 6 percent to Rs. 3,841 crores which nearly made good the drop in previous year. In 1986-87, foreign exchange reserves declined by Rs 732 crores as against a fall of Rs. 707 crores in 1985-86. The level of reserves at the end of March 1987 at Rs. 8,151 crores was constituted 4.3 by months of imports and these declined to Rs. 7,686 crores at the end of March 1988 and were equivalent to about 3.5 months of imports

According to the provisional data released by Directorate General of Commercial Intelligence and Statistics the overall position was said to be better in 1987-88. The trade deficit in 1987-88 was about Rs. 890 crores lower than that in the previous year, there was a rise of 11 percent in imports. Under invisibles, the growth rate in tourist traffic decelarated from 23 percent in 1986-87 to 8 percent in 1987-88 and hence, the rise in earnings from tourism would have been smaller than that in the previous year. Interest payments on foreign borrowings continued to show an increase. Repayments to the IMF were however, higher at Rs 1,209 crores.

Even after a near doubling of exports to Rs 20,281 crores in 1988-89 from Rs. 10,895 crores in 1985-86, the trade gap remains at Rs 7,412 crores as imports have spurted to Rs 27,693 crores from Rs 19,658 crores in the same period The cumulative deficit of Rs 59,045 crores during 1980-89 has taken the external debt on the government account alone to Rs. 25,239 crores from Rs. 9,899 crores on March 31,1980. Repayments against earlier loans and servicing obligations in respect of commercial borrowings also have eaten as much as 24 percent of the export earnings. The debt service ratio has thus been uncomfortably increasing-upto 24 percent from about 11 percent-and the fear is that it might well be 34 percent by the end of the Eighth Plan. The scheduled repayments ot the IMF under EFF would reach a peak of SDR 804 million this year, as against SDR 704 million 1987-88. All these indicators point to a continuation of the pressure on the balance of payments. Since this pressure affects our economy, it is necessary to think as to how to finance the BOP deficit.

How to finance

The need for removing persitent and widening deficit in Balance of Payments is made amply clear. Even though the management of the balance of payments is not an easy task, yet, theoretically, the financing of the deficit is split up into four sources, viz ,

(1) External assistance (which may take the form of loans or grants. Some assitance was also received in the form of commodity imports from USA under PL 480/665 etc., though it ceased to exist long ago)
(2) Drawings from I.M.F
(3) Allocation of SDRs, and
(4) Decline in foreign exchange reserves.

A close scrutiny of table-I reveals a few important peculiarities of the manner in which our balance of payments deficit is financed.

Table-I reveals that external assistance forms the most important source of financing the balance of payments deficit A part of external assistance comes in the form of out right grants, while the rest of it is in

Table I

Financing of B.O.P. Deficit

(Rs. Crores)

year	Total Deficit(-) Surplus (+)	Financed By: External Assistance Loans	Grants	PL 480	Total	Drawings from I M F	Allocation of SDR	Decline (+) increase (-)
1971-72	-749 6	651 9	112 6	8 6	773 1	—	74.7	-98 5
1975-76	-1035 0	1361 0	296 6	—	1637 6	207 1	—	-829 7
1980-81	-3147 9	1184 2	508 4	—	1692 6	818 8	120 5	516 0
1981-82	-4067 4	1367 0	445 3	—	1812 3	636 8	—	1618 3
1982-83	-3428 6	1774 9	385.3	—	2160 2	1892 9	—	-624 5
1983-84	-2887 4	1870 3	379 5	—	2249 8	1410 5	—	-772 9
1984-85	-1782 5	1953.0	538.6	—	2491 6	216.8	—	-925 9
1985-86	-3626 9	2481 2	439.2	—	2920 4	—	—	706 5
1986 (April-Sep)	-2255 4	1020 0	1221 1	-	1142 1	-	--	1113 3

Source: Government of India, Economic Survey, 1987-88, pps. 66-67

the form of loans. However, it is noteworthy that the amount of external assistance, has no relationship with the balance of payments deficit except that both have tended to increase with the passage of years. It can be seen that in many years, the amount of external assistance even exceeded the deficit in balance of payments. Even in 1977-78 we received an assistance of Rs. 1,346 crores though our balance of payments showed a surplus of Rs. 201 crores.

It may also be added that aid in one year has no relationship even with the deficit of the preceeding year. The world Bank and its affiliates as also other countries decide to extend aid to us based upon the world bank assessment of our needs for foregin exchange and we always accept it irrespective of our immediate requirements If aid is delcined once, it may have the repercussion of smaller offer next year when our need might increase

As regards the chances of the use of this source for financing of balance of payments deficit in future are not at all bright We are facing an increasingly hostile international political atmosphere. In future, we have to rely more and more upon commercial borrowings to meet our current payment obligations Already we have started going in for such borrowings on a modest scale. It should, however, be remembered that commercial borrowings are more burdensome to survive and add to our balance of payments difficulties

Drawings from I M F refer to our borrowings from this international institution These loans, unlike those of the world Bank and I D A are of medium term maturity They are supposed to help the borrowing country tide over balance of payments problems till it is able to increase its export earnings through appropriate policies However, it is to be remembered that like external aid, drawings from I.M.F should not be counted as a reliable and acceptable source for meeting balance of payments deficits.

Allocation of Special rawing Rights (SDRs) by I.M.F. is a non-continuous practice. It is totally urelated to the balance of payments difficulties of any individual country. It should be noted that an allocation of SDRs is equivalent to a non-repayable loan from the world community and having used it, we keep paying interest on it. In any case SDR allocation cannot be considered as a regular source of finaning our BOP deficit.

Decline in Reserves is another measure by which payment obligations can be met. It is, however clear that this source is to get exhausted very soon unless it is frequently replenied India's foreign exchange reserves which had declined by Rs. 707 crores during 1985-86, showed a further decline of Rs. 732 crores during 1986-87.

Table-II shows the position of India's Foreign Exchange Reserves.

In their over view of the economy in 1987-88 the central board of the RBI noted that the balance of payments position continued to remain a matter of concern and noted the successive decline in reserves in SDR terms in 1986-87 of SDR 615 million and in 1987-88 of SDR 627 million.

The BOP gap, was bridged only partly with net invisible receipts and net foreign aid, and, ipso facto, there was some depletion of foreign exchange reserves. A massive loan of 3.9 billion SDR had to be obtained from the International Monetary Fund. The drawals against such loans changed the situation, and there was even a modest rise in foreign exchange reserves temporarily, though the external debts were increasing all the time

Further, with the establishment of IMF, there emerged an entirely new frame work for the balance

Table II

Foreign Exchange Reserves

(Rs. Crores)

End of	Gold	SDRs (in million)	Foreign Exchange	drawings	Repurchases	Outstanding repurchase obligations
	Reserves			Transactions with I M F		
1971-72	182 5	247 7	480 4	–	–	
1975-76	182 5	202 8	1491.7	207 1	–	804 0
1980-81	225 6	490 5	4822 1	636 8	5 1	267 7
1981 82	225 6	425 1	3354 5	1892 8	–	901 0
1982-83	225 6	270 2	4265 3	1413 7	–	2867.0
1983-84	225.6	216 4	5497 9	218 8	72 1	4443 7
1984-85	245 8	146 5	6816 8	–	155 9	4887 7
1985-86	274 3	115 1	7384 4	–	253 0	5285 0
1986-87	274 3	139 4	7645 2	–	672 2	5548 1
1987-88	274 3	69 7	7287 1	–	1208 9	4731 6
1989						
January	274 3	76 3	5540 9	–	301 1	3816 7

Source: GOI. Economic Survey. 1988-89. P S-64

of payments adjustment which became a matter for policy. During a long perid of modern economic history, the Gold Standard set the rules of the game for countries' behaviour when they had surpluses or deficits in their foreign trade. The main object of economic policy under the gold standard was to keep the balance of payments in equilibrium. In the gold standard, which was often referred to as the price-specie-flow mechanism, the balance of payments adjustment was to be automatic thus became identified with deflation and unemployment. But Gold-standard collapsed in mid-1930s which was followed by a phenomenon of begger-thy-neighbour policies. These policies, including currency depreciations and foreign exchange controls, were used in attempts to improve domestic economies at the expense of foreign countries. The attempt by all countries to run a trade surplus by cutting imports led to a breakdown of the entire system of trade. As a result, a system of balance of payments adjustment never existed.

Stability of exchange rates was also one of the major objectives to adjust the balance of payments. Changes in exchange rates were to be made only to correct fundamental disequilibrium. Orderly exchange rate arrangements can be maintained, in the event of an adverse balance of payments, only if a country has adquate foreign exchange resources to meet the deficits

If the balance of payments is to be in equilibrium with no borrowing, exports are to equal imports, and domestic investment limited to domestic savings. Investment can increase without harm to the balance of payments only if export expand simultaneously in the correct proportion.

Tourism, also generates considerable tax revenue and it augments foreign exchange earnings. Foreign exchange earnings from tourism which amounted to about Rs. 32 crores in 1971-72 have been increasing from year to year and in 1982-83 these amounted to about Rs. 1031 crores However, the increase in tourist arrivals in India during 1987-88 is estimated to be 7 7 percent only against an increase of 23 percent in 1986-87.

Conclusion

The time has now come to wind up the discussion about financing the balance of payments deficit. As discussed earlier, the trade gap has to be bridged with a more serious effort to push up exports and to regulate imports through a well thought out process of elimination of redundant or substitutable items. The improvement in agricultural production, the increase in the stature of petrochemical industries and the greater accent on the indigenisation programme of the automobile and electronic industries should help moderate the growth in imports and secure a greater benefit from the rising exports. It is now for exporters to respond positively to the array of incentives and build upon their effort with renewed vigour. In an expanding phase of the economy, it is idle to expect that a net reduction in imports can't take place. If in these circumstances, the rupee is allowed to be devalued, the import bill is bound to swell beyond the limits that can be afforded. Hence, it is necessary, that there should be a correct fixation of the external parity of the rupee. Then, it would be quite proper to work for exports to grow in real terms. by 10 percent and more annually, so that foreign trade can be conducted comfortably at a higher level. The government has to formulate the strategy for boosting exports on a perspective basis even as imports are secrutinised carefully although it would not be wise to clampdown. However, if we want to achieve a break-through in the export market, we must introduce greater competitiveness within the domestic market and ensure adequate production and the emergence of a buyer's market. Then only our products will be able to withstand international competition.

Also, the viability of the external payments position has far-reaching implications for the economy and its growth. The measures like acquiring foreign aid or disposing of foreign exchange reserves can be used only as a stop gap arrangement. Some of these so called measures only aggravate the problem later on. Moreover, the scope for getting foreign aid is under cloud for various reasons including international political atmosphere

The management of the balance of payments will require improvement in domestic fiscal imbalances During the Bretton woods era of fixed exchange rates, we devalued rupee twice, in september 1949 and in June 1966. But both times, we could not reap the expected advantage and our balance of payments position continued to be as difficult as ever. The efforts to promote the image of India abroad must be vigorously pursued, in order that our share of the tourist trade may grow at a fair pace. Non-resident deposits have been a source of considerable support to the balance of payments in recent years and such inflows should be encouraged through appropriate incentives which are in line with movements in international interest rates.

It is necessary to encourage foreign investment, both from NRIs and others, without, however, jeopardising our national priorities. The major hurdle in the Eighth Plan can be over-come to some extent with the use of aid in the pipeline which is estimated at over Rs. 28,000 crores. If there is a brisker execution of the projects involved and a relaxation of the restrictions on the use of earlier credit, an awkward rise in the external debt can be avoided and a stage reached where the balance of payments gap can be bridged with net invisible receipts A combination of expenditure reducing and expenditure switching policies is called for. □□□

Exports and economic growth in India

M. Sujatha & Dr. G. Nancharaiah

In the light of the developments in the trade policy during the years, the author attempts a study of the change in the growth rate of indian exports vis-a-vis the economic growth during 1951 to 1983. The study according to the author confirms the positive co-relation between exports and economic growth. The author, therefore, calls for more measures to improve export performance in India.

INTERNATIONAL TRADE IS AN activity of strategic importance in the development process of a developing economy As Adam Smith pointed out the development of industry of an economy is severely handicapped if it is deprived of the ability to trade widely The division of labour is limited by the size of the market, and the division of labour is the key to increased productivity Competition from abroad forces firms to cut costs and improve quality of their goods Also contacts through trade ease the flow of capital and speed the acquisition of new technology J.S. Mill discussed the indirect gains from trade and stated that 'the opening of foreign trade, by making people acquainted with new objects or tempting them by the easier acquitition of things which they have not previously thought attainable, sometimes work as a sort of industrial revolution in a country' whose resources were previously undeveloped for want of energy and ambition in people; inducing them to work harder for the gratification of their new tastes, and even to save and accumulate capital for the still more complete satisfaction of those tastes at a future time. Empericaily there is considerable evidence that when free trade policies have been followed the process of development has indeed been export led growth in the most rapidly developed/ Less Developed countries. (Eg South-Korea, Taiwan, Hong Kong).

But the optimistic view of development through trade has been denied by many critics who argued for protection to promote national industries The main reasons for this are the ability of LDCs to exploit their comparative advantage in world market is limited by the imperfections in their domestic market mechanism and the inelastic demand for primary commodities, which form the basis of most LDCs export earnings, limits the capacity to import various inputs which are needed for their economic development It has often been argued that the early expansion of exports left LDCs with a degree of export dependence which makes them extremely vulnerable to external fluctuations in supply and demand Thus continuous participation in world trade may be harmful to the extent that they can neither control nor easily adjust to such fluctations and that instability has an adverse effect on investment and hence growth According to some economists LDCs opportunities for participating in international trade are so limited that their main hope for development lies in an import substitution strategy This view was put forward by Gunnar Myrdal, Raul Prebish, Hans Singer and others

Most of the governments of the developing countries have adopted import substitution policies for the reasons such as achieving objective of industrialisation and balance of payments support since it was believed that it helps to save foreign exchange But this type of industrialisation strategy has proven costly in many developing countries. A number of empirical studies confirm that the import substitution policies have not succeeded in fulfilling the above said objectives On the other hand the dramatic economic success of countries pursuing export oriented policies viz , South Korea, Taiwan, Singapore and Hong Kong along with dramatic failure of some countries pursuing import substitution policies like Argentina, Brazil, and Chile proved that export oriented economic growth is not only feasible but can be very rapid as well

The Indian experience

When India acquired independence she had adopted an import substitution strategy of economic growth believing that the vast size of the country and the availability of several types of resources can support it The factor that dominated export policy has been the small share of exports in total national income Exports have averaged 6% in

the fifties while imports were about 10%. Then over a period of time with rising national income, the size of the export sector came down further to 4.7% on an average. This small size of export sector influenced the government scheme of things. In the First Plan it was stated that "in view of the urgent need for investment in basic development diversion of resources on any large scale to trade must, in an underdeveloped economy, be regarded as a misdirection of resources. In the Second Plan emphasis was laid on rapid industrialisation of the economy on the basis of heavy and basic industries. This strategy has been formulated in the framework of the Mahalanobis Model", who placed a considerable emphasis on import substitution. It was stated that "while every effort has to be made to promote export of new items and to develop and diversify the markets for the country's major exports it has to be recognised that only after industrialisation has proceeded in some way that increased production at home will be reflected on larger export earnings. But the impact of this strategy was felt on the foreign exchange reserves of the country which declined from Rs. 902.4 crores to Rs. 303.6 crores in 1960-61 (DGCI&S data). This came as a shock to the planners and in the Third Plan they explored the possibility of supplementing the export earnings with external assistance. Greater emphasis on exports was placed and subsidisation was introduced covering a wide range of exports. These subsidisation policies essentially took two forms (i) Fiscal measures such as exemption from and refund of indirect taxes, drawback on import duties for raw materials and rebate on excise duties, direct tax concessions. Also there was provision for supply of key inputs at international prices for exporters and freight concessions on movement of merchandise. (2) Import entitlement scheme under which eligible exporters receive import licences fetching high import premia, pro-rata, to the value of exports effected But the import and exchange control measures including high nominal tariff and quota restrictions accompanied by tougher regulations on industrial licensing was continued.

Indian rupee was devalued on June 6,1966 to less than two-thirds of its current exchange rate to make exports beneficial and imports costlier At the time of devaluation export promotional measures were removed, since devaluation envisaged that export products would become competitive in the international market without incentives. But the net result was that it exercised adverse effect on India's exports. The value of imports was much higher than that of exports causing a huge trade deficit (Rs 921 crores). This led to adoption of three annual plans instead of a five year plan after the completion of Third Five Year Plan. During this period some of the export promotional measures were restored. They include cash subsidies and import replenishment scheme.

From the Fourth Plan onwards a series of policy innovations were introduced to increase the industrial capacity destined for export production. A Trade Development Authority was set up to provide a comprehensive range of services covering marketing, finance, and product adoption to exporters particularly those in the small scale sector. In 1974-75 Export processing zone was created for electronic equipment and components near Santa Cruz airport at Bombay. An Export Import bank was established in 1981-82 with an authorised capital of Rs. 200/- crores. It provides financial assistance to exporters and importers and function as the principal institution for coordinating the working of institutions engaged in financing foreign trade.

Besides these measures the Government of India pointed three committees to review the structure of trade policies and performance of India's foreign trade. they were Alexander committee (Jan, 1978); Tandon committee (Jan, 1980), and Abid Hussain committee (December, 1984). Based on the recommendations of these committees import licensing procedures were simplified and import of capital goods, intermediate goods and computer systems have been liberalised. A scheme has been initiated to enable hundred percent export oriented units to be set up anywhere in India with facilties similar to those normally available only in free trade zones to encourage the export of non-traditional manufactured items The government announced a long term import-export policy in April 1985, for a period of three years, upto March 1988 with the objective of imparting continuity and stability to the policy regime. The policy seeks to reduce the licensing by abolishing the category of automatic licences and most of the items of automatic permissible list have been shifted to Open General Licence An import-export pass book scheme was announced for the manufacture exporters, for the duty free import of inputs required for export production subject to actual user condition. The new long term import export policy was issued by the Commerce Ministry on march 30th 1988. Main features of this policy are Open General Licence list was enlarged to remove customs problems so that necessary raw materials could be imported without any difficulty Under the import policy exporters are entitled to get import replenishment licences to replenish the raw materials and components used in the manufacture of products exported. The coverage of the import export pass book scheme is being extended to bring within its purview manufacturers who are well established in the domestic market. Consequently manufacturers who are having three years average turnover of Rs. 15 crores and above, would be given the facility of pass book upto an extent of ten percent the average turnover. This will be subject to production of bank guarantee equivalent to the full customs duty leviable.

Export policy has been made simpler and easy to operate. In restructuring the policy, a system of having various categories of controlled commodities has been introduced; the system of quota licensing and fee licensing has been abolished. Similarly licensing on first-come-first-serve basis has also been

abolished. The scope of export of free trade samples has been enlarged and rationalised.

For the first time an export licensing committee under the chairmanship of CCI&E has been constituted. This committee will consider applications for items placed 'on merits' list, export of smaples over and above the value laid down in OGL and attend to clarification on export policy and procedures, etc.

Thus there is a change in the industrialisation strategy of India from import substitution to neutral to export oriented Trade policy liberalised while promoting import substitution in the economy.

Objective

In the light of these developments in the trade policy the present study is an attempt to examine,

1. Change in the growth rate of exports and that of GNP during 1951 to 1983 and
2. the relationship between growth of exports and that of GNP.

Liberalisation of foreign trade leads to promotion of exports and promotion of exports will have effect on economic growth

Methodology

The methodology used in this study is to compile the annual data relating to gross national product at factor cost and exports for the period 1951-52 to 1982-83 The year 1951-52 is chosen as the base year because it is during this year that India' First Five Year Plan was started The current year is dictated by the availability of comparable data. Since the GNP figures were adjusted to price changes, exports were deflated by using unit value index numbers of exports.

The unit value index numbers of exports for different period are given at different base years Hence all the figures were adjusted to the same base year 1970-71 by using the formula.

$$PX = \frac{\text{Current year index number of exports}}{\text{Base year index number of exports}} \times 100$$

where Px is unit value index number of exports. By using these index numbers (base 1970-71 = 100) export figures are adjusted to 1970-71 prices so that GNP data and export data could be comparable

Using the GNP data and deflated exports data, Karl Pearson's correlation coefficient and Regression equations are calculated for the whole period and for the two subperiods i.e.,

1. from 1951-52 to 1965-66 and (2) from 1969-70 to 1982-83. The total period is so divided on the basis of major changes that occured in India's foreign trade policy In the first subperiod considerable emphasis has been placed on import substitution and stringent import control measures were imposed. The second sub-period has witnessed a continuous liberalisation of the economy. The years from 1966-67 to 1968-69 were not included because of the extreme conditions prevailing in the country. There was severe agricultural drought situation for the two successive years 1966-67 and 1967-68. These affected the values of GNP and exports adversely.

Annual average compound growth rates of GNP for the first five Year plan and from 1978-79 to 1982-83, and for the two subperiods are estimated using the following formula:

$$Y = ae^{bt}$$

where
Y = GNP at factor cost
a = Constant
t = time period and
b = estimated growth rate

Results showed that while the growth rate of GNP for the two sub periods is 3.7 percent, it fluctuated in the first five five year plans and in 1978-79 to 1982-83 period between 5.8 and 2.2 The growth rate steadily declined from 4 percent in the first plan to 2.2. percent in the fourth plan. The main reasons for this decline were unfavourable weather conditions, industrial stagnation and Wars with Pakistan and China It increased to 5 8 percent in the Fifth plan but again declined to 3.2 percent during 1978-79 to 1982-83 period. But on the whole there was no improvement in the growth rate of GNP, over the total 32 years period, which remained constant at 3.7 percent.

Table 1

Annual Average Compound Growth Rates of GNP

Period	*annual average compound growth rate (percentage)*
First Plan (1951-52 to 1955-56)	4
Second Plan (1956-57 to 1960-61)	3.9
Third Plan (1961-62 to 1965-66)	3 1
Fourth Plan (1969-70 to 1973-74)	2 2
Fifth Plan (1974-75 to 1977-78)	5.8
1978-79 to 1982-83	3 2
1951-52 to 1965-66	3 7
1969-70 to 1982-83	3.7

The annual average compound growth rate of exports for the six five year sub periods and for the two sub periods are estimated by using the formula:

$$Yx = ae^{bt}$$

where Yx = value of exports.

It is observed that the rate of growth of exports decreased very rapidly and became negative by second plan period from 6.2 per cent to 1.5 percent.

This steep fall in the rate of growth of exports can be attributed to the indifferent attitude of the planners towards exports.

But from the third plan onwards explicit export promotional measures were taken and the growth rate increased to 5.1 percent. It further

Table 2

Annual Average Compound growth Rate of Exports

Period	*annual average compound growth rate (percentage)*
First Plan	6.2
Second Plan	1.5
Third Plan	5.1
Fourth Plan	6.2
Fifth Plan	8.6
1978-79 to 1982-83	3.2
1951-52 to 1965-66	2.6
1969-70 to 1982-83	6.6

increased to 6.2 percent in the fourth plan period and to 8.6 per cent in the fifth plan period. But in the period 1978-79 to 1982-83, the growth rate declined to 3.2 percent. This fall could be partly explained by the falling shares of Engineering goods, chemicals and allied products, leather manufacturing and other fast growing commodities which are considered to be the dynamic exports in India. When the average growth is estimated for the two sub periods, it is found that the growth rate increased from 2.6 percent to 6.6 percent. This improvement in India's export performance greatly enhanced the export promotional measures adopted by the Government.

Exports and economic growth

When Karl Pearson's correlation coefficient between exports and GNP is estimated for the two sub periods separately, it is found that it increased from 0.86 in the first sub period to 0.91 in the second sub period indicating that the relationship is stronger in the second sub period. But by this method we can not get a numercial value describing the extent to which one variable influences the other and to find it regression analysis is used.

The specific hypothesis to be tested is that 'there is a positive relationship between exports and economic growth i.e., a rise in exports stimulates increase in aggregate econmic growth.'

Linear Regression equation

$$Y = a + bX + cT$$

where Y = GNP, X = exports, both at constant prices

T = Time a = Y- intercept

b and c = partial regression coefficients.

has been fitted to the data for the years 1951-52 to 1982-83. Time is introduced as a variable, taking values T = 1,2,3...., in order to capture the effect of tall factors changing over time and influencing the GNP other than exports in the functional relation.

The estimated regression equation is:

$$Y = 10047.6 + 3.479\,X + 994.09T$$

(10.17) (4.764) * (22.20)*

$R^2 = 0.98$

$\bar{R}^2 = 0.98$

$F(2.29) = 765.62$

$Yx = 0.2 \quad Yt = 0.5$

Figures in parenthesis are t-values.

* Significant at 1 percent level.

The short run elasticity of GNP with respect to exports is 0.20. This means that a 100 percent increase in exports leads to 20 percent increase in GNP as an instantaneous effect. The elasticity of GNP with respect to trend variable is 0.5 which means that a 100 percent increase in all other dynamic factors other than exports would increase GNP by 50 percent. The long-run elasticity is compouned by adding the above two components i.e., 0.2 + 0.5 = 0.70.

The trend variable seem to explain larger variation in GNP than exports variable as the former has larger t-value than the latter.

In order to test whether trade liberalisation policies brought into force from 1969-70 onwards has any significant impact on GNP, a dummy variable is introduced into the regression equation and put in the form of;

$$Y = a + bX + cT + dD$$

where D is dummy variable

The value of dummy variable is given 'one for 1951-52 to 1968-69 and zero for 1969-70 to 1982-83 in order to differentiate between pre-liberalisation period and liberalisation period. The estimated regression equation is:

$$Y = 12408\ 5 + 3.64X + 898.24T - 1918.160$$

(5.441)* (13.259)* (1.833)**

$R^2 = 0.98$

$\bar{R}^2 = 0.98$

$F(3.28) = 555.204$

*indicates significant at 10 percent level.

The estimated results showed that the cofficient of dummy variable is statistically significant at 10 percent level and therefore, liberalisation policy as conceived here is found to be significantly affecting the GNP variable and the regression analysis confirmed the pisitive relationship between exports and eocnomic growth and hence the hypothesis tested is found to be true.

The results confirm the positive correlation between exports and economic growth and hence it would be desirable to undertake more measures to improve the export performance in India. □ □ □

Growth of India's export and import: An analysis

R.P. Singh, R.K. Pandey, B.K. Singh

In this article the author attempts an analysis of the growth of India's export and import during 1960-89. The analysis reveals that India's export increased significantly during 1960-61 1988-89; but increase in import was faster than exports. The export earnings varied from item to item during the period and today handicrafts and engineering goods bring maximum export earnings. More efforts are needed to raise the earnings through exports, say the authors.

EXPANSION OF EXPORTS PLAYS a vital role in the development process of developing/under developed countries. It provides the necessary means to meet ever increasing demand for imports But the process of development itself increases the home demand for consumption of food and food materials, which, in the absence of increase in the domestic output, will have the tendency either to reduce the exports or increase the imports of these commodities. The extent to which this may happen depends on elasticity of home and foreign demand for the products and the elasticity of home and foreign supply

For the purpose of this study, secondary data for a period of 29 years from 1960-61 1988-89, were divided into three decades. The data used in the study were obtained from Economic Survey published by Govt of India and various monthly bulletins. The growth rates of exports and imports were worked out by making use an exponential function Of the two types of trend equation tried i.e. linear and exponetial, the later gave a better fit to the data in all cases. As such, only exponential trend equations were taken up for the further economic analysis. When expressed in logrithmic forms this function transforms into linear function.

The following compound growth model was used for the purpose:

$$Y = A\,(1 + r)^{T}$$

where Y = Quantities of exports and imports of commodities in year

r = Compound growth rate

T = Time

The equation shown above can be reduced to linear in logrithmic forms that is,

$$\log Yt = \log A + T \log (1 + r)$$

or $Y = a + bT$

where $Y = \log Yt'$

$a = \log A$

$b = \log (1 + r)$

The compound growth rate 'r' thus be obtained as

$1 + r = \text{antilog } b.$

or $r = (\text{antilog } b - 1)$

or in percentage term $r = (\text{antilog } b - 1) \times 100$

The critical examination of all the three decades of exports and imports presented in Table No. 1 revealed that increase in Indian export was significant during 1960-61 to 1988-89. The growth rate of export was highest in 1970-71 to 1979-80 (19.25 percent) followed by the period of 1980-81 to 1988-89 (12.90 percent) and 9.80 percent during 1960-61 to 1969-70. The overall increase in export was 11.87 percent during the period of 1960-61 to 1988-89.

Similarly increase in India's imports was significant during 1960-61 to 1988-89 The growth rate of imports was highest in 1970-71 to 1979-80 (21.62 percent) followed by the period of 1980-81 to 1988-89 the figures being 9 53 percent and lowest being 7 20 percent during the period of 1960-61 to 1969-70 respectively. The overall increase in import was 13.44 percent during the period of 1960-61 to 1988-89.

It is clear from the table that India's export has increased, no doubt, but increase in India's import was faster than exports over the periods

Composition of Exports:

The composition of exports is presented in Table No. 3. Following results obtained from this table.

(1) The most important export item in 1960-61 was jute and it contributed Rs. 212.9 crores in the form of the export earning. This amounted to 20.5 percent (or a little more than one fifth) of total export earnings. Since then its share has continuously declined (to 12.4 percent in 1970-71 and 2.4 percent in 1985-86).

(2) The second most important export item after jute was tea in 1960-61 and it contributed Rs. 194.7 Crores (which amounts to 18.7 percent of total export earning). Its share has also declined consistently to 9.6 per cent in 1970-71 and 5.6 percent in 1985-86. During the last few years it has yielded more export earnings as compared to jute.

(3) The third most important item in 1960-61 was cotton fabrics yielding Rs. 90.6 crores in the form of earning which was 8.7 percetn of total export earnings. This has declined to 4.9 percent and 3.4 percent in 1970-71 and 1985-86 respectively.

(4) As is clear from Table 2, the most spectacular increase had been recorded by handicrafts (from Rs. 69.9 Crores in 1970-71 to Rs. 1850.10 Crores in 1985-86). In fact, during recent years they have occupied the first place in India's export earnings.

(5) An event of considerable importance was the emergence of crude petroleum as a significant item of export during the last few years. In fact, during 1982-83 and 1983-84 exports of crude petroleum occupied second place after handicrafts. In 1984-85 they occupied first place with exports worth Rs. 1563.2 Crores. However, they slumped to only Rs. 135 1 Crores in 1985-86

(6) Consequent upon the programmes of industrialization indicated during the planning period, the exports of engineering goods rose substantially. As a result, their share in India's export earnings rose from 1.3 percent in 1960-61 to 6.4 percent in 1984-85 Engineering goods occupied the third place behind handicrafts and cotton in 1985-86.

(7) The results of industrilization were also expressed through increase in the exports of chemicals and allied products. From Rs. 5.4 Crores in 1960-61, the exports of this item increased to Rs. 482.9 Crores in 1984-85. In percentage terms, the share of chemicals and allied products in total export earning increased from 0.5 percent in 1960-61 to 2.6 percent in 1985-86.

(8) Exports of leather and leather manufactures including footwear had shown impressive increase during the last few years. They contributed Rs. 743.2 Crores in 1984-85 and Rs. 520.90 Crores in 1985-86.

(9) The commodities showing wide fluctuation in earnings were 'Sugar', 'Iron' and 'Steel'. Earnings from sugar were meagre in 1960-61 and 1970-71 but all of a sudden shot up to Rs. 472.3 Crores in 1975-76 seizing the first place in export earning commodities. Thereafter they slipped to inordinately low level of Rs. 36.1 Crores in 1984-85 and 11.00 Crores in 1985-86. Earnings from iron and steel also show similar trends.

(10) Jute and mica export earning stagnanted over the year The stagnation of export earnings from jute was attributable mainly to the stagnation of jute consumption in the importing countries. This, in turn, was due to: (i) Substitution of papers in place of jute as the packaging material. (ii) Growth of new techniques in distributive trades, dispensing with the use of large traditional containers. and (iii) Introduction of "Back Handing" techniques in transportation of commodities, Mica also faced a similar fate. Despite the fact that India was a leading producer of mica, exports of this commodity had failed to increase This could be attributed to various causes, the most important being (i) growing use of synthetic mica, and (ii) the ever increasing possibilities of making use of scrap mica in place of high trade mica. During recent years, high temperature-

Table No. 1

Compound Growth Rate of India's Export and Import (1960-1988)

year	Equation	Compound growth rate	Standard Error	R^2
1960-69	Yt = 6 30 (0 0938)t	9 80***	0 067	0 98
1970-79	yt = 7 13 (0 176)t	19 25***	0 026	0 85
1980-88	Yt = 8.67 (0.122)t	12 90 **	0 052	0 81
Overall (1960-88)	Yt = 6.32 (0 112)t	11 87 ***	0 0195	0 73
		IMPORT		
1960-69	Yt = 7.27 (0 0069)t	7.70***	0 005	0 74
1970-79	yt = 7 26 (0 196)t	21 62 **	0 69	0.94
1980-88	Yt = 8 33 (0 09)t	9.53 **	0.037	0 81
Overall (1960-88)	yt = 6.49 (0 126) t	13.44***	0,023	0.98

*** Shows significant at 1 percent level of probability level
'** Shows significant at 5 percent level of probability level

resistant platics with good insulation properties have made progress and have successfully replaced the use of mica in electrical and electronic industries.

Table 2

India's Exports and Imports

(Crores)

Sl.No.	Year	Exports	Imports
1.	1960-61	660 70	1139.70
2	1961-62	669 70	1107 10
3	1962-63	713 60	1135 60
4	1963-64	793 20	1229 90
5	1964-65	816.30	1349 00
6	1965-66	805 60	1408 50
7	1966-67	1156 60	2078 40
8	1967-68	1198 70	2007 00
9	1968-69	1357 90	1908 60
10	1969-70	1413 36	1582 10
11	1970-71	1535 16	1634 20
12	1971-72	1608 20	1824 50
13	1972-73	1970 80	1867 40
14	1973-74	2523 40	2956 40
15	1974-75	3330 60	4518 80
16	1975-76	4036 26	5264 78
17	1976-77	5142 25	5073 79
18	1977-78	5407 87	6020 23
19	1978-79	5726 30	6814 30
20	1979-80	6418 43	9142 58
21	1980-81	6710 70	12549 15
22	1981-82	7805 90	13607 56
23	1982-83	8803 31	14292 74
24	1983-84	9872 10	15762 95
25	1984-85	11554 78	17692 12
26	1985-86	11012 00	19746 08
27	1986-87	12569 33	20200 65
28	1987-88	15719 36	22343 02
29	1988-89	18449 93	26760 41

Source (i) Economic Service, Govt of India 1987-88 (ii) Book "Indian Economy" Mishra and Puri, fifth revised edition 1987

Direction of exports

Direction of India's exports is presented in Table 4. The table indicated that still the U.S.A. took first place in India's exports. The share of exports to the U.S.A. exports was more or less constant during 1960-61 to 1984-85 and increased in 1985-86 over the period of 1984-85. The second important country was the U.S.S.R who captured second place in 1985-86 and contributed 17.35 per cent in India's total exports against only 1.83 percent in 1950-51 and 4.52 percent in 1960-61. Japan stood next with about 11 percent in 1985-86 as against 1.60 percent in the base year of 1950-51 and 5 45 percent in 1960-61 respectively. During the period of 1950-51 and 1960-61, U.K. was in the first place in the share of exports and contributed 23.30 percent and 26.95 percent in the total India's export From 1970-71 share of U.K. declined continuously, the figure being 11 08 percent in 1970-71, 5.22 percent in 1984-85 and 4.88 percent in 1985-86 There was no marked changes of the share of Iran, West Germany and France in India's total export during the period of 1950-51 to 1985-86

India's Export to World Export

From an analysis of share of India's export to world export was observed that the percentage share of India's exports in the world exports was one percent and above till 1966-67 It gradually declined and has never been able to pick up Similarly India's share in developing country's export was more or less constant till 1966-67 and after that had rapidly declined since 1963-64. This was contrary to the trend of percentage share of developing countries in world export which gradually decreased from 1960-61 to 1972-73 and picked up to attain a new level in 1980-81

Table 3

Composition of Indian Exports

Sl	Commodities	1960-61	1970-71	1975-76	1978-79	1979-80	1984-85	1985-86
1	Jute manufactures	212 9	190 4	248 3	166 9	336 1	341 3	269 6
2	Tea	194 7	148 3	236 8	340 5	367 8	766 7	611 9
3	Cotton fabrics	90 6	75 3	158 7	224 3	287 4	450 5	371 6
4	Iron ore	26 8	117 3	213 8	232 9	285 2	459 4	554.6
5	Leather and leather manufactures	39 3	72.2	201 3	327 7	485 6	743 2	520 9
6	Cashewcarrvel	29 8	857 1	96 1	80 2	118 1	179 7	215 3
7	Tobacco	24 8						
8	Engineering goods	13.4	130 4	408 7	700 7	739 1	880 2	760 3
9	Handicrafts	Nil	89 9	224 1	956 7	832 5	1665 3	1850 1
10.	Cofee	11.4	25 1	66 5	144 00	163 3	210 2	235 6
11	Mica	16 0	15 6	14 6	18.9	20 6	19 6	20 9
12.	Sugar	3.8	27.8	472 3	131.0	128.9	36 1	11.0
13	Raw cotton	13 7	14 0	39 2	16 0	75 1	59 7	65 8
14.	Iron and Steel	8 7	67 2	68 2	118 0	32 7	75 7	48 1
15.	Chemical and allied products	5 4	29.4	84 4	148.1	197 8	487 9	285 9
16.	Fish and fish preperation	7 3	30 5	126.6	226 3	253 4	381 4	388.6
17.	Others	—	432 3	1278 3	1777.6	1981 3	4823 5	4655.1
	Total	1039.8	1535 2	4036 3	5726 1	6418 4	11743.7	11012.0

Source: Govt of India, Economic Survey 1971-72, 1985-86 and 1986-87

(Contd. on page 3

Tax system of India

Dr. K. Sham Bhat

In this article the author attempts an analysis of the composition of various taxes in total tax revenue and elasticity and buoyancy of the tax structure of the Government of India for the period 1980-81 to 1987-88. Tax revenue according to the author forms only about 20 per cent of national income in India. There are, however, possibilities to increase the revenue by increasing national income and by expanding productive sectors of the economy, the author feels.

THE ATTAINMENT OF RAPID economic development is the most important objective of all developing countries. To achieve economic development capital accumulation is necessary In this connection the basic question will be how to raise the required finance for development. There are two sources for a government to raise resources-internal and external sources. Although taxation may have a large share in promoting a country's development, its actual efficiency will depend on the choice of various types of taxes. The government should take into account the legal system, political and social power and administrative ability before making its choice

The economy of India has some unique features when compared to other countries of the world. Low literacy rate i.e, 37 per cent according to 1981 census and higher level of unemployment, characterise the peculiar feature of the economy. In terms of the ratio of tax revenue to the state income, India is far behind other countries For instance tax revenue forms about 20 per cent of national income in India whereas in other countries such as Australia, Belgium, Denmark, West Germany, Sweden, the United Kingdom, the USA, the tax revenue ranges between 25 per cent and 30 per cent of the national income.

Composition of tax revenue

The government of India could mobilise most of its revenue requirement from tax revenue i.e. nearly 80.8 per cent of its total revenue which accounted for Rs. 19,844 crores (Rs. 198, 440 million) out of Rs. 24,563 crores (Rs 245,630 million) in 1980-81 (Table I). This level has been maintained during the eight years of study with little fluctuation. The tax structure has been dominated by indirect taxes. Out of the total tax revenue of Rs 19,844 crores (Rs. 198, 440 million) in 1980-81, a sum of Rs. 16,576 crores (165, 760 million) have been from indirect taxes. This accounts nearly 83.5 per cent of the total tax revenue. In 1987-88, Rs. 49,268 crores (Rs. 492, 680 million) is the contribution of indirect taxes which accounts for nearly 87.1 per cent of the total tax revenue. This increase of 3.6 per cent i.e from 83.5 per cent to 87.1 per cent has been achieved with a fluctuation during eight year period

Union excise duties is the major source of tax revenue for the government. Nearly 33 per cent i.e. Rs 6500 crores (Rs 65,000 million) have been contributed by union excise duties alone to the total tax revenue in 1980-81 Though the actual amount of contribution of union excise duties has increased from Rs 6500 crores (Rs. 65,000 million) in 1980-81 to Rs 16,826 crores (Rs 168, 260 million) in 1987-88, its share in total tax revenue declined to 29.7 per cent. The share of custom duties in the total tax revenue has increased significantly from 17.2 per cent in 1980-81 to 22.7 per cent in 1987-88. During the same year the share of income and corporation tax in the total tax revenue declined from 14.2 per cent to 11.3 per cent. The share of sales tax in the total tax revenue remained around 20 per cent during the period of study. In absolute terms custom duties have increased from Rs. 3409 crores (Rs. 34,090 million) to Rs. 12,867 crores (Rs. 128,670 million), income from corporation Tax increased from Rs. 2817 crores (Rs. 28,170 million) to Rs. 6382 crores (Rs. 63,820 million) and sales tax increased from Rs 4018 crores (Rs. 40, 180 million) in 1980-81 to Rs 11,908 crores (Rs. 119,080 million) in 1987-88

Elasticity and buoyancy of tax system

Tax elasticity or built-in flexibility refers to the coefficient obtainable by relating the changes in net tax yields with state or national income. This quantifies what would have happened to the tax revenues had no tax law changes been attempted over a time period. Tax buoyancy refers to the coefficient obtainable by relating the changes in historical tax receipts to change in national income and it measures what has happened actually. The former measure can, therefore, be viewed as a partial account of tax responsiveness to changes in national income and the latter as an account of total responsiveness. Sometimes these are also viewed as indicator of static and dynamic characteristics of a system. Tax elasticity or built-in-flexibility is interpreted as a static function, for it measures the growth of the revenues over a Constant tax base' and tax buoyancy as a dynamic function, for it measures growth of tax revenues unadjusted for any changes in rates, bases, etc.

Elasticity and buoyancy have been estimated by using the follwing equation:

Log T = Log L + B Log Y

Where T : Tax revenue

Y : National income

L : Intercept or regression constant

B . Regression coefficient

The regression coefficient 'B' will represent elasticity of tax structure if the tax revenue is adjusted for discretionary changes otherwise it will represent tax buoyance. The data have been obtained from various issues of Economic Survey of India. The model has been estimated by using ordinary least square method by assuming its usual assumption

The estimated result shows that buoyance of the tax structure of India is about 0 9987 i e , the total

Estimated Equation for Tax Buoyance.

Log T = Log (-o:5981) + (o.9987) Log Y
(-4. 165) * (3.5716)*

*represents 't' values.

responsiveness of the tax system of India with respect to national income is about 0.9987 units. It implies that one unit change in the national income will increase the total tax revenue by 0.9987 units. The 't' statistics of buoyancy coefficient (B) implies that the 'B' is statistically signifcant at five per cent level. The model also emerged significant by assuming higher value of R^2 i.e. around 79.4 per cent.

Estimated Equation for Tax Elasticity:

Log T = Log (-1 9709) + (1.2426) Log Y
(-25.0751)* (12.8767)*

* represents 't' values

The estimated tax elasticity coefficient (B) assumed a value 1.2426 units and emerged statistically significant at one per cent value. Its validity has been supported by higher 't' statistic value. The ealsticity coefficient (B) implies that the net tax revenue i.e. after deducting the discretionary changes it will increase by 1.2426 units when there is a unit increase in national income and also implies that the tax system is highly responsive to the national income. The model estimated is capable of explaning variation in the tax revenue to an extent of 99.6 per cent with the help of national income. It is given by the explanatory power (R^2) of the model and it is statistically significant at one per cent level. The statistical significance has been confirmed by higher 'F' statistic value

Table I

Sources of revenue of Government of India During 1980-81 Through 1987-88

(Rs. in million)

Items	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88
Tax Revenue	98,440	241,430	272,420	315,250	318,130	432,670	495,220	585,660
	(80.8)*	(79 3)	(76 1)*	(76 9)	(76)*	(76 2)*	(75 2)*	(75.8)*
Income & Corperat-	28,170	34,450	37,540	41,920	44,840	53,750	60,940	63,820
tion tax	(14 2)	(14 3)	(13 8)	(13 3)	(12 5)	(12 4)	(12 3)	(11 3)
Customs	34,090	43,000	51,190	55,830	70,410	95,260	115,000	128,670
	(17 2)	(17 8)	(18 8)	(17 7)	(19 7)	(22)	(23.2)	(22.7)
Union excise duties	65,000	74,210	80,590	102,220	11,510	129,560	143,470	168,260
	(32.8)	(30 7)	(29 6)	(32 4)	(31 1)	(29.9)	(29)	(29 7)
Sales Tax	40,180	50,630	56,670	65,070	73,260	87,420	100,400	119,080
	(20.2)	(21.0)	(20 8)	(20 6)	(20 5)	(20.2)	(20.3)	(20.1)
Others	31,009	39,130	46,430	50,210	58,110	66,680	75,410	85,830
	(15.6)	(16 2)	-(17)	(15 9)	(16.2)	(15 4)	(15 2)	(15.2)
Non-tax Revenue	47,190	62,830	85,530	94,640	112,850	135,060	163,620	180,840
	(19.2)*	(20.7)*	(23.9)*	(23 1)*	(24.0)*	(23 8)*	(24.8)*	(24.25)*
Total	245,630	304,250	357,950	409,890	470,980	567,730	658,440	746,500

Source: Government of India: Economic Survey 1987-88 PP. S-36-S. 37

( )* Percentage of total Revenue

( ) Percentage of tax revenue.

Table II

Direct and Indirect Tax Revenue of Government of India During 1980-81 Through 1987-88.

Year	*Direct tax*	*Indirect tax*	*Total*
1980-81	3,268 (18 5)	16,576 (83.5)	19,844
1981-82	4,133 (17 1)	20,009 (82 9)	24,142
1982-83	4,492 (16.5)	22,750 (83.5)	27,242
1983-84	4,907 (15 6)	30,484 (84 4)	31,525
1984-85	5,329 (14.9)	30,484 (85 1)	35,813
1986-87	6,912 (14)	42,610 (86)	49,522
1987-88	7,298 (12 9)	42,268 (87 1)	56,566

Source: Government of India Economic Survey 1987-88.
Note Parenthesis shows percentage of total tax revenue

Table III

National Income of India During 1980-81 Through 1987-88

Year	*National Income (Rs. million)*
1980-81	1,104,840
1981-82*	1,284,570
1982-83*	1,413,310
1983-84*	1,661,400
1984-85*	1,830,510
1985-86*	2,054,360
1986-87*	2,290,350
1987-88*	2,553,740

Source: Government of India Economic Survey 1987-88
* Provisional

In brief the economy of India is depending more on its indirect taxes for revenue. The direct taxes are contributing only around 13 per cent to the total tax revenue. Union excise duties is contributing nearly 30 per cent of the total tax revenue of the government. There are possibilities to increase the revenue by increasing national income and by expanding productive sectors of the economy. □ □ □

(Contd. from page 6)

dividend received by it from another domestic company. However, during the assessment years 1976-77 to 1984-85 such dividend was fully deductible from total income if it was received from a domestic company engaged in the manufacture of certain high priority items e.g., fertilizers, pesticides, paper and cement. The rationale behind this exemption was to encourage inter-corporate investments in the priority industries. The withdrawal of this incentive by the Finance Act 1984 with effect from the assessment year 1985-86 is a retrograde step in the history of corporate taxation in India on account of its adverse effects on expansion of corporate sector. It might be mentioned in this context that inter-corporate dividends are totally exempt from tax in countries like Brazil, Canada, Ireland, Israel, Malaysia and New Zealand. There exists, thus a plausible ground for total exemption of inter-corporate dividend in India also. The impending fear of concentration of economic power in the hands of big corporate giants through inter-corporate holdings is adequately dealt with in the companies Act (1956), the MRTP Act (1969) and as such there is no further need for any provision under the Income-tax Act designed to tax inter-corporate earnings even at a concessional rate.

Conclusion

In the end, it might be concluded that the burden of tax on corporate assessees in India is relatively higher as compared to the corresponding tax burden being borne by other types of assessees such as individuals, HUF, AOPS and Firms. In order to rationalise the existing structure of corporate tax and lessen the burden of tax on companies following suggestions are put forward:

(i) The existing classification of domestic companies into widely-held and closely-held should be scrapped and all domestic companies be subjected to a uniform rate schedule.

(ii) The existing flat rate of tax should be replaced by a graduated rate-schedule comprising 20% on income upto Rs. 1 lakh; 30% on income over Rs. 1 lakh but not exceeding Rs. 2 lakh and 40% on the balancing part of the income. The maximum rate of corporate tax would, thus, be 10 percentage points lower than the highest rate of tax applicable to indiviuals. This proposal is in consonance with the rate-structure of individual and corporate income-tax prevalent in many other countries

(iii) Inter-corporate dividends should qualify for 100 per cent deduction u/s 80 M in order to give a boost to the programme of diversification and expansion of corporate entities. □ □ □

Venture Capital in India

Dr. H. Sadhak

Venture capital, an important instrument used in industrialised countries to encourage specialists and technocrats to set up high risk industries is of recent origin in India. Though there are many potential innovative entrepreneurs in Indian society, lack of proper support hindered their growth. Venture capital initiatives are bound to remove these bottlenecks and help innovative technocrats entrepreneurs to come up, the author feels.

INDIAN ECONOMY HAS ALREADY witnessed emergence of several financial Institutions and a growing capital market during the post independent period. Latest arrival in the scene is venture capital institutions to cater to the need of indsutrial ventures involving high risks e.g. technology development. The need for emergence of such capital is primarily due to lack of encouragement of existing financial institutions (Development Banks, Investment Banks and other financial Institutions) to finance such enterprises which take longer period for realisation of commercial returns. The necessity of venture capital institutions was echoed by the Finance Minister in his Budget speech 1988-89. "We have one of largest pools of scientific and Technical Manpower Yet many of our young and new entrepreneurs find it difficult to raise equity capital because of the risk involved. This problem can be solved by allowing venture capital companies, in anticipation of future capital gains". The emphasis on venture capital by fiance minister acted as a booster and many of the institutions have started providing venture capital and many new institutions in Public as well as private sector have been established for this purpose. However, IFCI had already established Risk Capital Foundation (RCF) in 1975 to provide capital, in the form of risk capital IDBI has started its venture capital fund (VCF) in 1987 and ICICI launched its venture capital scheme (VCS) in 1987. Some private venture capital organisations have also come up.

What is Venture Capital

Venture Capital is fundamentally the risk capital needed by entrepreneurs. A Venture Capital Institution joins the entrepreneur as a co-promoter in project and shares the risk and rewards of the enterprise. Usually the venture capital company contribute equity in the projects Generally the venture capital can be classified into 4 categories:

Seed Capital	:	For translating the business idea into proposition.
Start up capital	:	For undertaking production.
Beginners Capital	:	For developing marketing infrastructure and improving competitiveness over the rivals through extended distribution chains.
Establishment Capital	:	For expansion, diversification etc.

Earliest attempt to establish venture capital institutions for providing finance to new ventures involving very high degree of risks was made in U.S.A. when the American Research and Development Corporation (A.R.D.) in Boston was incorporated in 1946. Another important Venture Capital Company (in U.S.A), the Small Business Investment Companies (SIBCs) and Minority Enterprise Small Business Investment Companies (MESBICs) started providing Venture Capital since 1958. These are privately organised and managed firms in U.S.A. After 1960, several of such firms came up and during 1960 and 1962, 585 firms were registered. In the United Kingdom, the first venture capital company was established in late 40's by the Bank of England.

The investment in industry by venture capital companies in. U.S.A. and European Countries has been estimated by Venture Economics Institutions.

According to this organisation the size of venture capital in U.S.A. was $ 20 billion in 1985, and $ 17 billion in Europe.

Growth of venture capital in U S.A., U.K. and other developed countries is primarily due to rapid growth and extensive potential of commercialisation of science and technology. These opportunities lured the venture capital institutions to invest in high-tech projects under condition of extreme uncertainty These projects otherwise neglected by the traditional financing institutions. Since risk involved is very high, a very selective and sophisticated method is used to select the projects The venture capital companies in U.S.A., U.K. and other developed countries are assisted to offload their shares in assisted units through the unlisted markets (USM) in the U.K. and over the counter (OTC) in USA.

Venture Capital in India

In India, Financial Institutions-Development Banks, Investment Banks and other Financial Institutions-are too much risk conscious. They are primarily interested in sanctioning loans to projects with low risk easy returns. They are usually shy of the new projects with suspectable returns. There is also a tendency among Indian Investing Institutions to invest in traditional industries promoted by established industrial houses. New units supported by high-tech innovation and promoted by first generation young entrepreneurs very often fail to get necessary financial support from these institutions. Therefore, in order to encourage and promote such technological projects, new products and to take scientific innovation from labs to life and to make R&D efforts commercialised, I.F C I I.D.B.I., I.C.I.C. and some other Institutions namely S.B.I. capital market Canara Bank etc have started providing risk/Venture Capital in India.

The first step to provide risk capital to entrepreneurs was taken by Risk Capital Foundation (RCF)- a subsidiary of IFCI.RCF was established in 1975 to provide loans on soft terms to entrepreneurs, particularly technologists and professionals who do not have adequate resources of their own. R.C F has been converted into RCTC (Risk Capital & Technology Finance Corporation Ltd.) in 1988 to provide risk/ venture capital to technologists and professional entrepreneur. The RCTC, in addition to providing assistance in the form of risk capital is providing finace for high tech projects in the form of venture capital to viable proposals and projects which are capable of completion within a short period emanating from units in the corporate and co-operative sector, industrial association and trust, with proven record in innovation and having requisite technological and Managerial strength. Finance will be provided for innovative technologies, products, process, markets services research energy conservation complex technology development, for meeting expenditure of National/ International Consultants and for sponsoring commerical R & D Programme.

Industrial Development Bank of India (IDBI) established its venture Capital Fund in 1986-87, with the objectives to

a. Encouraging the commercial application of indegeneously developed technolongy.
b. Adopting imported technology to wider domestic applications &
c. All matters connected with or incidental to the above.

IDBI venture capital scheme states "The VCF would be concerned with proposals relating to development of technology from the level of lab or bench scale onwards till the stage where it is mature for commercial application. IDBI scheme covers the proposals for ,

a Setting up Pilot plant based on laboratory process.
b Upscaling of Pilot to demonstration scale capable of commercial operations.
c Technological innovation leading to quality upgradation etc.
d Adoptations/Modification to imported process.
e Cost of studies surveys etc.

IDBI provides assistance ranging Rs. 5 lakhs to Rs. 250 lakhs at 6% during development process/product is accepted in the market. IDBI assistance is available for financing cost of fixed assets as well as for operating expenditure A minimum contribution of 10% by the promoters for venture costing Rs. 50 lakhs is required. This contribution increases to 15% for venture costing more than 50 lakhs.

Another important step towards venture capital has been taken by ICICI by setting up Technology Development and Information Company of India Ltd. (TDICI) "in order to broad-base technology development oriented activities". The major function of IDICI would be technology financing and technology information. Technology financing will include financing of commercial R&D Schemes through grants and conditional loans,venture capital financing and Technology upgradation financing ICICI is shortly launching first tranche of Rs. 200 million. The second Venture Capital Fund of Rs. 400 million will be launched in middle of 1989 which would invite subscription from large number of financial institutions and banks ICICI has completed a survey to determine market segments. Accordingly the segments are: "mission areas of Government where spin off technology from defence and space Research Organisations could be commercialised; process and product develop in the Central Laboratory, tapping the universities and technological institutions, research and development by various industry associations and private initiatives by small units and corporations etc.

Other important Institutions promoting Venture Funds are S.B.I. Capital Market (SBI Cap), which at present finances through its bought out deals. Grindlays Bank has launched its India Investment Funds and Financing Projects which need venture Funds. Canara Bank is also establishing its venture capital fund. The first private sector venture capital fund will have credit capital with 10 crore fund.

Operational data

Ventu'e Capital is a totally new initiative in India and all the companies except R.C.T. are in the formative young stage. Therefore, only limited information about financing is available It has been observed from the available data that as on June'88. RCTC has assisted 156 Projects involving 264 promoters, Cumulative sanction and disbursement of RCTC was Rs. 1861.48 lakhs and 1322.48 lakhs respectively An important feature of RCTC assistance is that about 70% of the RCTC assisted projects are located in notified backward/less developed areas

A study conducted by RCTC shows that 57% assistance (sanction) went to technocrat entrepreneurs, 55% promoters were technician entrepreneurs, and 47% promoters were from service background.

Table 1

Risk Assistance provided by R.C.T.C. (1976-1988)

	Sanction			Disbursement		
Year Jan. - Dec	*Amount (Rs. lacs)*	*No. of Promoters*	*No of Project*	*Amount (Rs lacs)*	*No of Promoters*	*No of Projects*
1976	25 90	9	5	6 75	1	1
1977	27 50	4	4	21 55	6	4
1978	28 39	10	5	16 75	4	3
1979	67 20	16	9	49 39	14	8
1980	63 85	14	8	52 20	14	7
1981	82 50	13	10	76 85	15	10
1982	65 00	10	7	66 35	12	7
1983	83 14	14	7	59 74	8	7
1984	239 49	34	20	102 39	16	10
1985	217.87	31	18	173 50	25	30
1986	290 44	36	19	267 77	37	20
1987	406 20	43	25	350 94	42	25
1988	264 60	30	19	78 30	8	5
	1861 48	264	156	1322 48	202	120

During the year 1987-88, IDBI sanctioned Rs. 687 lakhs to 10 projects under Venture Capital Fund as against Rs 13 5 lakhs to one Project in 1986-87. The TDICI's target for venture capital during 1988-89 is about Rs. 20 crores and about Rs 100 crores by 1989-90. Venture investment by other Institutions is not readily available

Cautions needed

Venture Capital initiatives are long awaited steps in Indain Capital Market which would provide much needed support to technocrat entepreneurs. This type of entrepreneurs who are called innovative entrepreneurs have brought so many revolutionary ventures in industrialised world. Though there are many such potential entrepreneurs in Indian Society, yet lack of proper support hindered their growth. Venture Capital would remove these bottlenecks and help the innovative technocrat entrepreneurs to come up.

However, venture capital needed a cautious approach particularly in respect of supporting the technological projects. Our educational system very often fails to match laboratory research with commerical application and many of the projects are not commercially viable. Therefore, a very high standard is required to establish maintain and to scrutinise the projects while those are accepted for financing. This would require a close co-ordination between venture capital company Research and Educational Institutions A suitable appraisal measures appropriate for Indian condition need to be developed for assessing risk and commercial viability of the technological project. Adopting the existing appraisal technique of Indian Financial Instfutions which rely more on objective judgement may not suit the objective of venture financing. More reliance is needed to be put on subjective assessment of the venture.

Secondly, the existing security market which has been proved insecure for investors due to several malpractices at various quarters would not be able to render necessary support to rights of investors in new and technology ventures. It is therefore necessary to promote a second fire stock exchange (U.S.M. in U.K. and O T.C in U S) to help venture companies to offload their shares in assisted units, since these are very high risk shares which cannot be traded, in ordinary stock exchange

Suitable measures should also be taken to give tax relief to venture capital companies This relief can be extended to initial equity investment by them in high technology industries and industries promoted by first generation entrepeneurs, which are otherwise high risk ventures Moreover, suitable amendment of 43 (A) of companies rule is necessary to remove apprehension of promoters to declare their units as public units There are several other minor problems which need to be attended for health growth of venture funds in India for not only healthy growth of capital market but also to extend necessary support to the growing technocrats/professional entrepreneurs in India. □ □ □

VAT- How to Administer?

Dr. Kishore C. Samal

THE VALUE ADDED TAX (VAT) HAS spread rapidly in the last 25 years. Some 45 countries mostly in Europe and Latin America are now employing the comprehesive V A T (see Table-I). Around 20 countries mainly in Africa are using the restricted form of V A T.

In 1967, the comprehensive VAT first appeared in Brazil to replace the turn-over tax and in Denmark to replace a wholesale sales tax. The VAT was introduced by major industrialised countries like France and FRG in 1968, and U.K. and Italy in 1973.

Though there is much talk about V A T and now MODVAT in India, there is some confusion about the concept, more so due to different forms of VAT in practice in different countries.

The value added tax (VAT) is a tax on the value that a business firm adds to the things it buys from other firms in producing its own product. The VAT is added to the sales price but is separately stated except on the final sale to the consumer. Each seller in the chain collects the VAT from the purchaser at the time of sale, deducts any VAT paid by him on his purchases from this amount and remits the balance to the Government. Thus, the burden of VAT falls on the final consumer.

In short, VAT is imposed only on valued added-on the incremental value added. VAT can be introduced either as a substitute to the corporation income tax, sales tax and excise duties or as supplement to them. Mainly there are three types of VAT, (i) GNP type, (ii) Income type and (iii) Consumption type.

In India the concept of VAT has its origin first in Kaldor Committee's recommendations, and then in the Dutta Committee, Jha Committee, FICCI study and Sarvane's study. In these reports of the committees and studies, the VAT was treated as a device to neutralise the cascading effects of indirect taxes.

MODVAT

The idea of Modified Value Added Tax (MODVAT) scheme was first introduced in the Long-term Fiscal Policy (LTFP) document. The LTFP had stated to extend the system of proforma credit to all exciseable commodities except few sectors as a solution to the problem of taxation of inputs and the cascading effects of this on the value of final products.

On the basis of the LTFP guideline, the then Finance Minister introduced MODVAT in 1986-87 budget with the hope that it will decrease the cost of final product considerably through availability of instant credit of duties paid on inputs and consequent reduction of interest costs, thus benefitting the consumers. In 1986-87 budget the MODVAT scheme covered 37 specefied chapters of the Central Excise Tariff Act 1985. In 1987-88 budget it was extended to all sectors except textiles, tobacco and petroleum.

Under the MODVAT scheme, the proforma credit given, covers only excise duty and additional duty of custom. The scheme which has been in force from Ist March 1986 is not a new innovation. The MODVAT scheme only extended the existing system of proforma credit which was in force since 1962 to most of the exciseable commodities The proforma credit scheme permits adjustments of central excise duty paid on a material when that material and the product made out of it are both covered by the same tariff heading Under the MODVAT scheme, this benefit is wider as adjustment is provided even when the material and the products made out are not covered by the same heading. Under this scheme manufacturers are allowed to get complete re-imbursement of excise duty paid on the inputs.

MODVAT has been introduced in India to reduce the cost of final product to benefit the consumer, but the VAT has been neither introduced for this purpose nor to add to a country's tax revenue. Of-course, the

VAT over the years, has become a major source of tax revenue in some countries.

The VAT has mainly replaced other types of sales tax supposed to have serious defects. The turn-over tax levied as a percentage of sales is one of these defective taxes.

So, the VAT has replaced a general turn-over tax in several countries including Brazil, But in developing countries at an early stage of development where most business activity is fragmented among small firms, a turn-over tax may be preferred only on administrative grounds.

In more advanced developing countries, it is difficult to prefer between retail sales tax and the V.A.T. However, the V.A.T. has replaced a retail sales tax in Sweden and Norway. It has also replaced manfacturing sales tax, a wholesale sales tax in some countries. It has been substituted for corporate and personal income tax in the State of Michigan in U.S.A

The V.A.T. is more popular in most of the developing countries due to their dissatisfaction with their existing tax strucure which results from unsatisfactory sales tax system, need for elimination of discriminatory border taxes in a custom union, desire for reduction of other taxes and others

Of-course, the V.A.T. is not suitable for all developing coutries. It will be better to depend on a simpler turn-over tax or a single-stage tax than on the V.A.T. on the part of some developing countries where there are (i) minor role of foreign trade, (ii) importance of small-scale agriculture, (iii) fragementation of retail trade among very small sellers and (iv) lack of knowledge of basic accounts and others.

Though, there is wide international acceptance of V A.T. particularly in countries with large public sector in need of a broad-based and buoyant general sales tax, there is no VAT in Austrialia, Canada, Japan and U.S.A. These industrialied countries have resisted the introduction of the V.A T. due to various reasons. These are (i) regressivity of V.A T, (ii) fear of excessive growth of public sector since it offers policy makers a temptation to expand their influence, (iii) satisfaction with the existing sales tax structure, (iv) high administrative compliance cost (v) its potential inflationary effects, (vi) potential evasion through false invoices, (vii) registration system (viii) political considerations and others.

There is a controversial misconception that VAT is expensive to administer since the administration of the VAT requires (i) comparatively large adminisitrative staff, (ii) computerized system and (iii) greater compliance cost for traders. The first requirement is some what true. But the number of administrative staff required for the VAT administration depends on various factors such as (i) exemption turn-over limit, (ii) exempted goods and services, (iii) the use of staff transferred from work on taxes that have been replaced, (iv) frequency of returns, (v) complexity of the rates of the VAT and others.

If there is the problem of complex administration, particularly in case of small firms, such firms may be exempted from the VAT, but the products in which they deal should not be fully free from the VAT at all stages. Exemption provides that a trader pay the VAT on his inputs without being able to claim any credit for these taxes. It simplifies tax administration but can result in cascading tax.

Another device to simplify VAT administration is zero-rating by freeing certain goods from the VAT. When zero rating is used, a trader is compensated for any VAT that he pays on inputs and is being freed from tax liability.

Thus it is difficult to presume that the VAT is relatively easy to adminisiter, because it contains some self-enforcing features The VAT certainly contains an element of self-enforcement that is lacking in other types of general sales tax. Thus, theoretically evasion of the VAT is not possible since one trader's purchase is some other traders' sale. However, like other taxes, the VAT can be evaded. The forms of evasion of the VAT are : (i) non-registration of traders who are liable to VAT, (ii) exaggerated refund claims by inflating the claims for deductions of VAT paid at earlier stages simply by fabricating fake invoices for purchases never made, (iii) under-reported sales, (iv) deliberate misclassification and incorrect description due to multiple rates, (v) false export claims since VAT is rebated on export, (vi) unrecorded cash purchases, (vii) credit claims for invoices from unregistered suppliers, (VIII) credit notes on purchases including VAT not shown on returns, (IX) credit claims for purchases that are not creditable, (X) omission of self-deliveries, (XI) bogus traders, and (XII) barter arrangements.

Like VAT, the MODVAT introduced in India puts additional burden on tax department and producers since it involves maintenance of tax records at every stage After one year of operation of the MODVAT in India, some operational problems were realised. So four important procedural changes were introduced in 1987-88 budget to simplify the operation of the MODVAT.

As in the case of VAT, it is claimed that the MODVAT scheme may check evasion and avoidance of duties to some extent. In case of components required for further processing for producing an exciseable product, a manufacturer may not resort to mal-practices of suppressing production figures and hence input intakes since he will lose the MODVAT credit to the extent of duty paid on the quantity of raw materials and inputs suppressed from his accounts and secondly his products which are used as component of another product may not be purchased by other producers who use it for further processing as that transaction would not entitle them to take their MODVAT credit.

But tax evasion is possible under the MODVAT as in the case of VAT. A big manufacturer unit can inflate

Table 1

VAT Rates throughout the World

Sl. No.	Country	Year VAT intro-duced/ proposed.	Standard Rate of VAT At Intro-duction	Standard Rate of VAT On January 1, 1988
1	2	3	4	5
1	Argentina	1975	16	18
2	Austria	1973	8	20
3	Belgium	1971	18	10
4	Bolivia	1973	10	10
5	Brazil	1967	15	17
6	Canada*	–	–	–
7	Chile	1975	20	16
8	Colombia	1975	10	10
9	Costa Rica	1975	10	8
10.	Coted 'Ivoire	1960	8	25
11.	Denmark	1967	10	22
12.	Dominican Rep	1983	6	6
13.	Ecuador	1970	4	6
14.	France	1968	13.6	18 6
15.	F R G	1968	10	14
16.	Greece	1987	18	18
17.	Guatemala	1983	7	7
18	Haiti	1982	7	10
19	Honduras	1976	3	5
20.	Hungary	1988	25	–
21.	Iceland*	1989	24	–
22.	Indonesia	1985	10	10
23.	Ireland	1972	16 37	25
24.	Israel	1976	8	15
25.	Italy	1973	12	18
26.	Japan *	–	3	–
27	Korea	1977	10	10
28.	Luxembourg	1970	8	12
29	Madagascar	1969	12	15
30.	Mexico	1980	10	15
31	Morroco	1986	19	19
32	Netherlands	1969	12	20
33.	Newzealand	1986	10	10
34.	Nicaragua	1975	6	10
35.	Niger	1986	12	25
36.	Norway	1970	20	20
37.	Panama	1977	5	5
38.	Peru	1976	20	18
39.	Phillippines	1988	10	–
40.	Poland *	–	–	–
41	Portugal	1986	16	16
42	Senegal	1961	–	20
43.	South Africa	1989	–	–
44	Spain	1986	12	12
45	Sweden	1969	11 1	23 46
46	Taiwan	1986	5	5
47.	Thailand*	1989	–	–
48.	Tunisia	1988	17	–
49	Turkey	1985	10	15
50.	United Kingdom	1973	10	15
51.	Uruguary	1968	14	21

Note: * Proposed or under discussion

** Rates are so-called standard rates applied to goods and services not covered by other especially high or low rates. Most countries use a zero rate for a few goods

Source: I M F Survey Vol 17, No 21 p 358

its sales trun-over to get an increased deduction under the system. The seller may also falsify invoices showing a forged tax content which he can claim as tax credit.

The evasion of VAT or MODVAT may be minimized if there is a strict enforcement system with provision of penalties and criminal prosecution for tax evader And to minimize adminstration and compliance cost the standard of tax administration should be imporved.

There is also fear of potential inflation due to introduction of the VAT. But the effect of the introduction of the VAT on prices depends on whether it is a new tax or whether it replaces another tax, and on the stance of wage and monetary policies. After examining the operation of VAT in 35 countries; Alan A. Tait identified seven countries where there was acceleration in inflation when the VAT was introduced. So to him, the VAT is not generally inflationary.

In India, the hope of the Government that the MODVAT scheme will help in reducing the consumer prices of product covered by the scheme may not be realised.In 1986-87 budget, in order to ensure revenue neutrality the introduction of the MODVAT was accompanied by an increase in the duty on the final products to balance the set-off being given of the duty paid on inputs That is, to reatin the collection of excise duties at earlier level, the rates of duties on final products under the MODVAT scheme was suitably adjusted in 1986-87 budget. Even in 1987-88 budget, the duty on final products was being increased in some cases to maintain revenue neutrality Thus, in view of this, the prices have not been reduced in case of products under the MODVAT scheme where revenue neutrality is maintained.

Even in case of products under the MODVAT scheme where duty on final product is not being raised, if the manufacturers maintain the rate of profit on the net cost of production as lowered by the MODVAT and accept a reduction in the absolute size of the profit from a given volume of output, the prices of final products covered unde the MODVAT may fall. But, in fact, the manufacturers are not bound to maintain the rate of profit. To keep prices of final products covered under the scheme around the level prevailing before the introduction of the MODVAT, the Government should lower the rate of the MODVAT when producers raise the price of these products, that is, both producers and the Government should adjust the rate of profit and the MODVAT respectively □□□

Octroi : Can we replace it

Sandhya Rani Panda

Octroi is the main source of revenue of urban local bodies. What can be the implication of the abolition of this on urban local bodies ? What are the possible alternatives ? These issues are examined by the author in this article.

FINANCIAL POWERS ARE DISTRIBUTED in the Indian Constitution between Union and State Governments. At the same time, some financial powers are given to urban local bodies by each State government The State and local governments usually provide a number of public services for public welfare purposes to raise the standard of living of the people and for growth of the economy. Public services include basic health and education, construction and maintenance of local road, the provision of water, street lighting, cleaning and sanitation, public markets and land development for business and residential purposes. Public services are provided in accordance with the preferences and needs of the citizens of the locality. Large scale revenue is necessary for smooth and effective performances of the public services by the local authorities which include Municipalities, Municipal Corporations and Notified Area Council. Financially stronger local government can improve the efficiency of local authorities for the maintenance of the public services.

Sources of revenue

The main sources of revenue of the local bodies are taxation, grant-in-aid from the State government and shares of taxes levied and collectd by the State government and non-tax revenue from enterprises of the local bodies. Taxes mainly include, taxes on property; taxes on goods like Octroi and terminal taxes, personal taxes as taxes on profession and business, terminal tax or passanger taxes on vehicle and animals etc. Among these taxes, property tax and Octroi are larger sources of revenue for most of the Urban local bodies.

The property tax is imposed on the income derived by the owner from his property and its uses. Property tax includes (i) taxes on building including the open land which may be utilised to build houses (ii) taxes on unearned increment in relation to town development scheme (iii) taxes such as stamp duty on transfer of properties. The first two categories of taxes are levied by local bodies and the third category of taxes are mainly levied by the state government.

Next major source of revenue for the local bodies is Octroi. Octroi is a tax on the entry of goods into the local areas from other areas, for consumption, use or sale. It is one of the oldest taxes in India, which was known as "Chungi" in Moghul period. It is included in entry-52 of the state list.

Octroi has been criticised from various quarters, as it has some harmful effects. Local bodies raise much revenue out of octroi, but octroi has created many administrative and other problems which affects a large section of people and retard the growth of trade and commerce. There has been a controversy on introduction of some appropriate suitable alternatives in place of octroi. Almost all the alternatives suggested are defective. To remove the unfavourable impacts of Octroi, octroi should be replaced by some suitable alternatives.

Several central level and state level committees which are appointed by the Government of India and various state government have criticized octroi and suggested alternative sources of revenue to replace octroi The committees are : the Indian Taxation Enquiry Committee (1924), the Local Finance Enquiry Committee (1949), Motor Vehicle Taxation Enquiry Committee (1950) the Taxation Enquiry Commission (1953), the Road Transport Reorganisation Committee (1959), the Committee on Augmentation of Financial Resources of Urban Local Bodies (1963) Rural-Urban Relationship Committee (1968), Committee on Transport Policy and co-ordination (1966), Zakaria Committee (1965), Road Transport Taxation Committee (1967)

Octroi

The defects of octroi, according to these committees are (i) it is regressive in nature (ii) it

(Contd. on page 34)

Nehru as an educational thinker

Dr. Man Mohan Lal

The author here presents a critical appreciation of Pandit Jawaharlal Nehru's ideas about education mostly contained in letters written by him to his daughter-Indira Priyadarshani. The wide range of thoughts he offers on education the vast experience he reveals and the concern he shows for modern knowledge convince us that Pandit Ji was no less important an educational thinker, the author feels.

NEHRU WAS NEVER A TEACHER, NOR WAS education his chief concern. He viewed education with a parent's eye. The education of his daughter Indira remained one of the important preoccupations during the Thirties. At times he availed himself of the opportunities of addressing students and inculcating in them an awareness which was needed for the awakening of a nation. His views on education are limited only to these two situations However Nehru's hypothesis of education is important and worth studying as it affected the Indian academia before and after the Independence As a builder of modern India Nehru was the most sensitive and receptive mind who did not leave any relevent aspect of Indian milieu untouched in his works and letters Although there is, in his views, undoubtedly an evident imprint of western padagogical movements and innovations, his concern for Indian education was original and genuine. We do not find any confusion or immaturity in his conception. Sometimes he appears prophetic in his visions. Perhaps this quality makes his educational conception further more valuable. This is true that he could not get his dreams fulfilled in his life time; now the question is -how far have we been successful in realizing his dreams in the field of education ? There can't be any political answer to this question, nor should we bury our heads in sand to evade it. Hence a greater need to analyse his views on education.

What Nehru meant by education

According to Nehru : "Right education must be an all round development of the human being, a harmonising of our internal conflicts and a capacity to co-operate with others." Nehru attached a great importance to the practical aspect of education. He hated such scholars as lived a cloistered life Education to him was a means to an end and that too the social and national end : "All round us we see people who have had brilliant academical careers and yet who are somehow unable to fit in any-where Partly the fault is theirs, but certainly there is something seriously lacking in such a one-sided education. Examination oriented education was never favoured by Nehru Real education is not bound up with examination. He attached more and more importance to real education, and by that he did not mean examinations and the like. In his opinion a proper intellectual training is essential to do any job efficiently; but far more important is the background of this training-the habits, ideals, ideas, objectives, the internal harmony, the capacity for co-operation, the strength to be true to what one considers to be right, the absence of fear Real education, according to Nehru, aims at, "internal freedom and fearlessness " Time and again he reiterated that education divorced from life can never be of any use "After all education is meant to fit you for life, that is to say, not only in your narrow spheres but you will have later on to understand the big problems of life "

Values in education

Of late a lot of fuss has been made about value-oriented education However, only a vague idea is conveyed through this phrase It is interesting to note that Nehru was fairly free from doubts as to the values education aimed at. There is not a great difference between his and Gandhi's conception. Both insist on the individual virtues to be inculcated, however the former gives no less importance to the social aspect. He hates an education system that reduces a human being to a bookworm or an island by himself. The greatest value one can expect from academic training is the feeling of co-operation and equality. Nehru did not like the idea of keeping his daughter in a separate building at Shantiniketan "apart from the 'common herd' and requiring all manner of special attention." His advice to his daughter can be further generalised:

"This seems to me to savour of vulgarity and snobbery...No this kind of thing will never do. Wherever we go we must keep on a level with our surroundings and not imagine that we are better or superior. It is better not to go a place than to go as a superior person. If you ever desire to work among village folk or for factory workers, how do you think you would live with them or visit them ? As a society lady with a scented handkerchief to keep off the bad smells, occasionally patronising them or doling out charity to them ?"

Nehru always warned us against inaction and indolence. 'Aram haram hai' was his ever-echoing watchword. In his opinion, the greatest feat of education would be to make people shrug their lethargy off and work ceaselessly for the welfare of society. Dignity of labour was considered by him much greater than higher intellectual pursuits. There remained alwasy a sort of wistfulness in his heart to see Indians up and doing. He set his own example to preach the gospel of work. No woder he imbibed all ethics from contemporary literature and philosophy that inspired action and incessant work. His ideal was not the individualistic philosophy of Samuel Smiles; rather he seems to share with Kropotkin whose *A Word to Youngmen* shook the aristocratic ambitions of the contemporary educated youth. Nehru's educational ideals were meant for his daughter as well as all youngmen of India:

"I think I have told you that it has long been my desire that a part of your education and every boy's and girl's education should consist of reall honest work in a factory or in the fields. Unfortunately this cannot be arranged in India under present conditions but this idea of mine will give you some notion of what I think of education If you want to work in a factory, do you think you could do so as a superior person living apart and in a much better way than the others ? The idea is absurd. The very object of going there is to learn from the sufferings, discomforts and misery which surround and wrap up the great majority of people; to see the drama of real; to become akin to a small extent at least with the masses; to understand their viewpoint; and get to know how to work so as to raise them and get them out of their misery This cannot be done by people who live in cotton wool but by those who can face the sun and the air and hard living."

Education and nationalism

Nehru's nationalism was free from all bigotry and narrowmindedness. He had evolved so healthy an outlook that it was impossible for him to confine his interests to his own nation. Humanity, love and justice were the values he was all for. However, he was like any other nationalist against the British rule in India He could never condescend to the unjust laws and administration of the British. His love for India was deeply romantic and emotional. At the same time he was seriously concerned about the well being of the nation. And to this cause he was fully dedicated. All sufferings and troubles he sustained for this very cause. Naturally his ideal of education is closely associated with nationalism. Nationalistic education, he thought, must come from the national genius.

"...I do not mean the teaching of aggressive and blind nationalism. But I do feel that a person who cuts himself off from the cultural genius of the country he lives in, creates a barrier which makes it difficult for him to function there effectively. Even the breaker of old customs must approach his job as an insider, not an outsider."

To Nehru, devotion to learning was meaningless in the absence of devotion to the nation. The immediate and recognisable unit of society is nation and therefore nation and society are synonymous:

"What I wanted to tell you was that we are all members of a huge living thing called society, which consists of all manner of men women and children We cannot ignore this and go our way doing just what we please. This would be as if one of our legs decided to walk away regardless of the rest of the body ! So we have to fit in our work so as to help society in functioning. Being Indians we shall have to work in India."

Though the first job of a student is to train himself for future, his indifference to politics is undesirable. 'The pressure of political circumstances' and 'the stranglehold of economic conditions' deny the opportunity of education to vast masses of people. A national awareness, as such, was necessary in order to create a favourable atmosphere for proper education.

"Our educational system, inspite of the ideals which it may profess, is itself an outcome of and a part of this environment It seeks sustenance from it and, consciously or unconsciously, supports it. Yet if there is anything clear in the world today, it is this: that this environment is the cause of most of our troubles, and to leave it as it is, is to head straight for disaster."

But it does not mean only politicians are the builders of India's destiny. The academia including students and teachers also have an important rather seminal, role to play in the reconstruction of the nation Politicians and statesmen may strive for political and economic changes but they can't play the part of foundation layers. 'The real basis' of that society must be laid in the teaching of our schools and colleges.

Choice of career and courses

Abstract aims tend to make education pointless to the immediate need of life The so-called practical minded men remain indifferent to the ethical aspect, for them education is only a lucrative investment. Nehru warns us against such a limited application of intellectual and vocational training. He never thought in terms of financical returns. he hated the idea of

minting money through abilities obtained from education. In his age the profession of a lawyer was very profitable. it was as coveted a career in those times as medicine and engineering are today:

> "But this is just a way to earn money although in our present world some money has to be earned. What is far more important is to do something that is worthwhile and that does good to the larger society we live in."

Any such profession as aims at exploiting others can never be good for the society. It does not create anything or add to the good things of the world. A lawyer for example, "merely takes a part of other people's belongings." Nehru was strongly in favour of scientific pursuits and technical training. "I am", he says, "rather partial to science as the modern world is based on scienc". It was Nehru's long cherished vision that wanted the youth of India to become scientists, engineers, doctors and education agriculturists. India's future, he believed, lay in these educated youth:

> "We may be sicentists for science today is at the back of everything; or we may be engineers or those who apply science to man's everyday needs; or doctors who apply science to lessen human suffering and root out diseases by hygiene and sanitation and other preventive measures; or teachers and educationists training all ages from babies up to grown men and women; or upto-date modern farmers on the land increasing the yield of *the land by new scientific devices and thus adding to the wealth of the country and so on."*

Art and culture, though not so important as science and technology are very essential for the general refinement of a poeple's attitudes and ways of life. Nehru never undermined the value of art In his opinion art and culture are very necessary to make a complete man or a woman. They give us a grace of life and broaden our viewspan. However too much concentration on the artisitc side does not let us keep with the fast progressing world. We cannot go on living and reliving our past. Nehru's progressive thoughts, though deeply influenced by the industrial world of the west, were not very different from those of Gandhiji. The latter believed in small scale technology with a special weight on individual effort, while Nehru insisted on socialistic pattern of industrialism. this is the reason that Nehru put art and culture in the second place:

> "...art and general culture without anything else are apt to make us rather helpless persons in the present day world. To understand it we have to possess technical knowledge, for the modern world is based on science and technical appliances No person can call himself educated today unless he or she knows something of science and economics and technology "

Like any modern educationist, Nehru did not believe in imposing ideals on the student He has to decide for himself what his life-philosophy should be. Parents should not forcibly mould their children after their own fashion and impress them with their own ideas. According to Nehru each individual stands out by himself or herself as 'a new experiment' which life is working out. When we force the student, we check his growth. Once his daughter expressed her wish to become a teacher Nehru did not object to it, rather he threw light on the relevant aspects of the job of teaching; at the same time he did not leave other careers unsuggested and the choice was left open to her.

Education for women

Nehru's views on women's education are reflected specially in his letters to his daughter. He was directly related to this problem. Though he never imposed his ideas on her, he expressed frankly what he thought of and meant by education for women. He disliked the education which prepared a girl to play a part in the drawing room and nowhereelse. Women had an equal role to play in the making of the nation. He saw women on par with men in every walk of life:

> "Personally, if I had the chance I would like to have my daughter work in a factory for a year, just as any other worker, as a part of her education."

Nehru seems to be much influenced by the *unpopular* thoughts of Bertrand Russell. He always accepted all what was logical and progressive. While *Nehru was fighting for the freedom of India,* Russell and Shaw were disseminating the ideas that shook up the roots of the Victorian moral of male superiority. Though Carlyle and Ruskin had already raised their voice against the secondary position of women in society, Russell was bolder to argue in logical terms. He was surprised to see even the most advanced scientists propagate baseless and false proofs in favour of man's superiority over momen: "Each of the arguments in turn was proved to be fallacious...For my part, I see no evidence of this."

Classroom teaching

Again like Bertrand Russell Nehru did not see any sense in compulsory classroom instruction. Russell regards it unnecessary and time wasting:

> "In the newer universities in this country there is a regrettable tendency to insist upon attendance at innumerable lectures. The arguments in favour of individual work, which are allowed to be strong in the case of infants in Montessori school, are very much stronger in the case of young people of twenty, particularly when, as we are assuming, they are keen and exceptionally able. When I was an undergraduate, my feeling and that of most of my friends, was that lectures were a pure waste of time No doubt we exaggerated, but not much "

Perhaps Nehru shares the views of Bertrand Russell completely. In a university, students are not expected to remain depending too much on their

professors. They must learn to pursue higher studies only with a slight hint from their teachers. Nehru was well acquainted with the western style of higher education. He wanted his daughter to follow all those valuable habits of education that were prevalent in England. He saw the nexus of teacher and taught as the healthy relationship of two friends. A professor is supposed to help his pupil pursue higher studies without imposing his aweful authority:

"Usually when one goes from school to college, the actual classtime is reduced and more work has to be done by the student by herself. As one goes up in the university more and more work has to be done privately with just an occasional tip from the professor."

His daughter's education at Santhiniketan was Nehru's tentative experiment. He was in favour of informal education. Pursuit of knowledge and culture under the able and benign guidance of Gurudev was a fantastic idea However casually he went on giving instructions to his daughter as to the ways and methods of study. He warned her against too much importance of classroom study:

"Classes are really far less important than *this* personal guidance from good professors Indeed at Cambridge we attached little importance to the university lectures; as they are called. This really applies to every subject-literature, politics, economics."

Towards secular education

Nehru was deeply secular in his thoughts. He was worried about growing fanaticism and communal lunacy specially among students. Education to him was free from any race or community. Institutions run by religious sects were not so dangerous as the demogogues who wanted to make them centres of communal hatred and violence. He had, no doubt, a special penchant for variety and was pleased to see different cultures and philosophies thrive in the fertile soil of India but he could never stoop to the communal narrowmindedness, nor was he ever afraid of pointing out the evil

These views of Nehru on education, though scattered and casual bear out at least one thing that he was no less important an education thinker. His importance as an educationist further gets strengthened as he was a successful man of action. Being the most popular leader of the Indian people he expressed the representative views on education cherished by the whole nation. □ □ □

(Contd. from page 17)

Conclusion

It may be concluded from the foregoing study that India's exports during 1960-61 to 1988-89 has increased significantly, no doubt, but increase in In 'ia's import was faster than exports over the periods. More attention is needed to increase the export earning in general and in particular earning through handicraft by utilizing rural population ■■■

Table 4

Direction of India's Exports

(Rs. Crores)

Sl No	Cuntry	1950-51	1960-61°	1970-71	1984-85	1985-86
1	U S S R	11	29	1210	1880	1937
		(1 83)	(4 52)	(13.68)	(16 00)	(17 58)
2	U S.A	116	103	207	1766	1994
		(19 30)	(16.04)	(13 48)	(15.04)	
3	Japan	10	35	204	1029	1191
		(166)	(5 45)	(13 30)	(8.70)	(10.82)
4	U K.	140	173	170	613	538
		(23.30)	(26.95)	(11 08)	(5.22)	(4.88)
5	Iran	—	04	27	134	085
		(0.62)	(1 75)	(1.15)	(0.87)	
6	Wst Germany	—	20	32	488	507
		—	(3 12)	(2.12)	(4.16)	(4.60)
7	France	09	09	18	191	200
		(1.50)	(1.40)	(1.17)	(1.62)	(1·82)
8	Others	315	269	667	5643	4550
		(52 41)	(41 90)	(56 55)	(48.05)	(41.33)
	Total	*601*	*642*	*1535*	*11744*	11012
		(100 0)	*(100 0)*	*(100 0)*	*(100 0)*	*(100.0)*

* At pre-devaluation role
Figures in parantheses indicate percentage

Soruce (i) For column (2) Govt of India, India-A reference annual 1982, Table 20 5, p 349
(ii) For column (3) Reserve Bank of India, Report on Currency and Finance-1972-73, statement 84, pp S-132 and S-133, and
(iii) For others column. Govt of India, Economic Survey, 1986-87, Table 6 8, pp S-64 and S-65

Regional rural banks and rural development

Krishnan C.

The RRBs which have completed more than a decade in interior India have succeeded in mobilising rural savings; thereby aiding the growth and development of rural India. The increased flow of money to ural areas through these banks has made them act as a lever of rural development, says the author.

NATIONAL PLANNERS OF OUR country have rategically decided to use the organised part of dian banking system as an instrument for celerating rural development Co-op-eratives and mmercial banks had its own limitations in the ocess of rural transformation and rural develop-ent. It was, therefore, considered expedient to have special type of institution which could be responsive the over all requirements of rural credit. This sulted in the establishment of Regional Rural Banks RBs).

Setting up of Regional Rural Banks

The idea of setting up of some sort of rural banks as first mooted by the Banking Commission in its port in 1972. But, the Government of India didn't ke any action with respect to the recommendations the Banking Commission till June 1975. It was the mouncement of the "Twenty Point Economic ogramme" on July 1,1975, that led to a re-thinking rural banks among the policy makers in India. cordingly, the Government of India appointed a orking Group on rural banks under the chairmanship Sri. Narasimhan in 1975. The Working Group commended the setting up of the state-sponsored, gionally based and rural oriented banks to be iown as Regional Rural Banks They were set up ider the Regional Rural Banks Ordinance 1975, later placed by Regional Rural Banks Act, 1976.

Purpose of RRBs

According to the RRBs Act, RRBS are set up mainly vith a view to develop rural economy by providing for the purpose of development of agriculture, trade, commerce, industry and other productive activities in rural areas, credit and other facilities, particularly, to the small and marginal farmers, agricultural labourers, artisans and small entrepreneurs for matter connected there with and incidental there to." More over, RRBs were meant to combine the, "local feel and familiarity with several problems which the co-operatives possess and the degree of business acquisition, ability to mobilise deposits, access to central money markets and a modernised outlook which the commercial banks have". Thus, RRBs have the status of scheduled commercial banks and are set up under low-cost banking principle.

Capital structure

The authorised capital of each RRB is Rs. one (1) crore. The issued capital is Rs. 25 lakhs, which is subscribed by the Central Government, State Government and 'Sponsoring Banks' on 50.15:35 ratio asis Moreover all RRBs are eligible for re-finance facility from NABARD (National Bank for Agriculture and Rural Development).

By now, RRBs have completed a little morethan one decade of functioning in the interior parts of our economy Now, let us have a look on the different aspects of the working of RRBs ever since its establishment The Table-1, gives a clear exposition of the functioning of RRBs in India

Branch expansion

After the establishment of RRBs, Indian banking witnessed an all round development in banking. The most important development has been the opening of more and more branches in the unbanked and under banked areas. Rapid expansion of banking is a pre-requisite for rapid economic development. In 1975, there were only 6 (six) RRBs with branch net work of only 17. But, by June 1988, the number of RRBs rose to 196 and the number of banches to 13,586. In other words, there has been 32-fold increase in the number of branches during the same period.

Districts covered

Each RRB operate within specified districts in a state. Generally, the RRB for its operation will have a

compact area of one to five districts with homogeniety in agro-climatic conditions and rural clientele. From table-1-, it is seen that, during the time of inception, RRBs covered only 12 districts in the country. But, within a period of little more than one decade, RRBs covered 365 districts in the country. With this, 83 per cent of total districts (440) in the country have been covered by RRBs.

Deposit mobilisation

Regional Rural Banks have contributed greately to the development of banking habits among the people through extensive branch banking and better service to the customers. Table 1, shows that, the deposits of RRBs have been increasing continuously. It increased from Rs. 20 lakhs in 1975 to Rs. 2, 42, 864 lakhs by June 1988. The average deposits per RRB have increased from Rs. 3.33 lakhs in 1975 to Rs. 1,253.01 lakhs by June 1988 Similarly, the average per branch deposits also increased from Rs. 1.17 lakhs to Rs 18.07 lakhs during the same period. All these show that, RRBs have succeeded in mobilising the rural savings to a great extent

Loans and advances

Every RRB is authorised to carry on and transact the business of banking as defined in Section 5 (b) of the Banking Regulation Act 1949 and may also engage in other business specified in Section 6 (i) of the said Act. Accordingly, RRBs grant loans and advances to small and marginal farmers, agricultural labourers, artisans and other weaker sections. From the table, it is seen that, the total outstanding advances of RRBs have increased from Rs 10 lakhs in 1975 to Rs. 2,42,864 lakhs by June 1988. Similarly, the average outstanding advance per RRB also increased from Rs. 1.60 lakhs to Rs. 1,239.10 lakhs by June 1988. The average advance per branch increased from Rs. 0.85 lakhs to Rs. 17.87 lakhs during the same period. When we consider the multiplier effects of these increasing flow of money to the rural areas we can infer that, RRBs are acting as a lever of rural development.

Credit-deposit ratio

Another impostant indicator for evaluating the performance of commercial banks is credit-deposit ratio. The Credit-deposit ratio of RRBs was 50 per cent in 1975, it increased to 176 by june 1979, but declined subsequently and reached to 99 by June 1988. Though, the ratio shows a declining trend, comparing with the commercial banks, the present credit-deposit ratio of RRBs is commendable. In

Table 1

Progress of regional rural banks
(As at the end of June 1988)

(Amount in lakhs of Rupees)

Sr No	At the end of	No of RRBS	Districts covered	No of Branches	Deposits (Amount)	Outstanding Advances (Amount)	C D Ratio	Average per RRB Deposits (Amount)	Average per RRB Outstanding Advances (Amount)	Averge per branch Deposits (Amount)	Averge per branch Outstanding Advances (Amount)
1	2	3	4	5	6	7	8	9	10	11	12
1	Dec 75	6	12	17	20	10	50	3 33	1 60	1 17	0 58
2	Jun 76	19	NA	NA	NA	NA	NA	NA	NA	NA	NA
3	Dec 76	40	84	489	772	702	91	19 30	17 55	1 57	1 43
4	Jun 77	48	99	767	1566	1958	125	32 62	40 79	2 04	2 55
5	Dec 77	48	99	1187	3304	4235	128	68 83	88.22	2 78	3 56
6	June 78	48	99	1424	6597	6597	145	94 29	137 43	3 17	4 63
7	Dec 78	51	102	1753	7411	12202	165	145 31	239 25	4 22	6 96
8	June 79	56	107	1990	9825	17305	176	175 44	309 01	4 93	8 69
9	Dec 79	60	111	2420	12322	16741	136	205 36	279 01	5 09	6 91
10.	June 80	73	130	2735	16367	18116	111	224 21	248 16	5 98	6 62
11	Dec 80	85	144	3279	19983	24338	122	235 09	286 33	6 09	7 42
12	Jun 81	102	167	3784	25285	30245	120	247 89	296 52	6 68	7 99
13	Dec 81	107	182	4795	33600	40659	121	314 02	379 99	7 01	8 48
14	Jun 82	121	207	5393	38223	46259	121	315 89	382 31	7 09	8 58
15	Dec 82	124	214	6191	50226	57711	115	405 05	465 41	8 11	9.32
16	Jun 83	142	249	6812	53487	62370	117	376 67	339 23	7 85	9 16
17	Dec 83	150	265	7795	67785	75084	111	415 19	500 56	8 70	9 63
18	Jun 84	162	286	8727	77434	85997	111	477 99	530 85	8 87	9 85
19	Dec 84	173	307	10245	95997	108077	113	554 88	624 72	9 37	10.55
20	Jun 85	183	322	12139	105704	118835	113	577 60	649 35	8 71	9 97
21	Dec.85	188	333	12606	128582	140767	109	683 95	748.76	10 22	11 17
22	Jun 86	194	343	12755	144351	154034	107	744 08	793 08	11.32	12 08
23	DEc 86	194	361	12838	171494	178484	104	883 98	920 02	13 36	13 90
24	Jun 87	196	362	13076	190968	193353	101	974 32	986 49	14 60	14 78
25	Dec 87	196	363 @	13353	230582	223226	97	1176 44	1138 90	17 27	16 72
26	Jun.88	196	365	13586	245591	242864	99	1253 01	1239 10	18 07	17 87

@ Consequent upon bifurcation of existing districts

Source: National Bank News Review Feb 1989

commercial banks, the credit-deposit ratio was only 61 per cent during December, 1987.

The problem of overdues

Though there has been tremendous developments in the field of branch expansion, deposits and advances in RRBs, the problem of voerdues is very serious. One study pointed out that, out of the 194 RRBs functioning in the country at the end of June 1986, the overdues of all these RRBs had been to the tune of Rs. 412.87 crores constituting 51 per cent of the total demand. The state-wise position of overdues indicates that the percentage of overdues to demand was the highest in the state of Nagaland (78%), followed by Tripura (71%), West Bengal (61%), Orissa (60%), Bihar (59%), Madhya Pradesh (51%) etc.,... and the lowest was observed in the RRBs functioning in Punjab. Thus, RRBs are no better than the commercial banks in respect of overdues.

Conclusion

From the study, it is evident that, RRBs have kept up the pace in branch expansion coverage of districts, deposits, and advances ever since the beginning. The credit-deposit ratio is also commendable Barring the overdue problem, the present study reveals that, RRBs have succeeded in taking the banking services to the doorsteps of rural masses to a great extent. □ □ □

(Contd. from page 27)

breeds corruption and other malpractices (iii) it encourages tax evasion (iv) it retards industrial growth (v) it causes delay by obstructing free movement of vehicles Some of these committees have suggested few alternatives to replace octroi such as: Surcharge on Sales Tax or additional Sales Tax, Municipal Sales Tax or Municipal Surcharge on Sales Tax and Municipal turnover tax The State level committee like the Wankhede report (study Group, 1970) of Maharastra has suggested multi-point additional Sales tax as an alternative to Octroi. The Odedra report/Report of the Octroi Inquiry Committee (1972) in Gujarat recommended turnover tax at differential rate to be collected at a single point or at two points. The suggestion of the Municipal Finance Enquiry Committee (1975) of Karnataka is for Municipal turnover tax. In May 1976 Govt. of Madhya Pradesh adopted entry tax and turnover tax to replace Octroi in the State.

It is found that some of the economists have argued for retention of octori. Their main argument is that Octroi is the only one major source of revenue for most of the local bodies including local bodies of metropolitan cities like Bombay, Calcutta and Delhi. Octroi is also more flexible and productive than other kind of taxes of the local bodies To them octroi only can provide enough revenue to finance the different kinds of public services It is argued that though octroi is regressive, it is beneficial for all the individuals of the region through welfare activities undertaken by the urban local bodies out of revenue collected from octroi. Further, burden of octroi is invisible as it is one kind of indirect tax and the burden is borne by wider section of population. It is further argued that Octroi only does not create delay in movement of vehicles, but there are other post like Police Post, forest department check post etc. which are responsible for 70 per cent delays.

To some others octroi is "obnoxious and vextious". Others say it is not obnoxious, but administration of Octroi is defective in nature. Introduction of proper, simple, easy and perfect administratine methods can remove almost all the problems of octroi. By reforming octroi adminsitration, octroi may be retained with the urban local bodies.

Though urban local bodies may hesitate to abolish octroi, there is greater need for abolishing octroi. The loss of revenue may be compensated by some alternative source of revenue. The alternatives suggested and recommended by different committees, commission and scholars are defective in nature and may not provide enough revenue to compensate the loss of Octroi. Introduction of any kind of Sales Tax has almost all the defects of indirect taxation as it encourages tax evasion, breeds corruption and is regreesive in nature Contribution of taxes on services, including local income tax or profession tax is inadequate to finance the public services, for a local body Entry tax has also problems like obstruction of movement of vehicles at State boundary

Possible alternatives

It may be difficult to find appropriate and suitable alternatives to replace Octroi. Still we can think of some sources of revenue which can replace octroi, contributing large amount of revenue to urban local bodies. Some direct and progressive taxes may be adopted to replace octroi, which will be simple and easy in connection with its collection and administration and which will have favourable impact on the society and also provide adequate revenues to compensate the loss of revenue due to octroi abolition The possible alternatives are: Business property tax, user fees and development charges, transfer of some state government taxes like entertainment tax, tax on ownership and use of vehicles and vehicle registration tax to local bodies. Business property tax is more progressive than octroi and also can provide enough revenue to local bodies. User fees and development charges can provide larger income with the growing urbanisation in different urban areas. Imposition of motor vehicle tax will be a profitable source of revenue for the urban local bodies as the rate of growth of number of vehicles has been rising and it will be borne by the richer section of the urban population. Effective adminstration and use of business property tax and user charges as well as motor vehicle tax and entertainment tax will probably serve as a suitable source of revenue to replace octroi. □ □ □

Better water utilization

With the introduction of modern irrigation systems in the country, farmer's participation has become a critical factor for optimum utilisation of water. Efficient management or irrigation water for maximising productivity requires proper application methods. With the addition to 11.5 million hectares of irrigation potential after the Sixth Plan, agricultural productivity will depend largely on the proper utilisation of this created potential.

Aimed towards achievement of this objective, the Command Area Development Programme was launched in 1974. At present it covers 131 major and medium projects. Under this programme construction of field channels, land levelling and warabandi have been taken up to ensure timely and adequate supply of water to farmers. Adaptive trials are encouraged by the CADA authorities to evolve suitable cropping patterns and farming practices. Pilot projects have been initiated to involve beneficiaries irrigation water distribution below the minor or outlet. It has been estimated that there is an increase in production of crops such as paddy, jowar, wheat, ground nut and gram in certain CADA projects.

An irrigation management and training project (IMT) has also been taken up with USAID to help train farmers and provide extension services for better water utilisation. Training is also provided by the Water and Land Management Institutes (WALMI) in 11 States. Besides these training programmes workshops and demonstrations are conducted at the project sites for direct transfer of technology to farmers and also to provide feed-back to the irrigation professionals. □ □ □

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Improvement of quality standards

Improvement of quality standards is necessary both from the view point of national consumers as well as from that of exports.

Externally the world economy is under-going a transformation leading to greater inter-dependence amongst nations with increased interchange of products and services. If we have to sustain a faster rate of growth of our economy to solve the myriads of problems of millions of our country-men, it is necessary that we have a greater share in this interchange and world trade. Exports, therefore, are crucial and for exports the most crucial attribute is quality.

The GNP of the country had been rising at a satisfactory rate having gone up from 3.5% in the first three decades of planning and well over 5% in the 80's with a highly diversified industrial structure covering full range of consumer intermediate and capital goods. But the concept of quality assurance management had yet to percolate to our industry both in the public and private sector.

Apart from large enterprises, small scale and cottage industries also contribute significantly to the GNP and the concept of quality assurance is even weaker in these industries though no less necessary. As the ultimate quality of products and services of large industries depended on the quality of raw materials, components, services, assemblies etc. which are the output of the small sector and inputs of the large sector, it is equally necessary that the quality consciousness seeped down to small scale and cottage industries level also to the same extent to which it should pervade the industrial culture of the larger enterprises.

Quality improvement holds the key both to the enrichment of our vast human potential and improvement of their skills, as also to a larger export effort, "withoug which we will not be able to progress as fast as we have to". □□□

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